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# Railway Age

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Published weekly by Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the act of March 3, 1879. Subscription price $6.00 for one year U. S. and Canada. Single copies, 25 cents each. Vol. 110, No. 21.

**Published every Saturday by the Simmons-Boardman Publishing Corporation, 1309 Noble Street, Philadelphia, Pa., with editorial and executive offices: 30 Church Street, New York, N. Y., and 105 West Adams Street, Chicago, Ill.**

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*The Railway Age is a member of the Associated Business Papers (A. B. P.) and of the Audit Bureau of Circulations (A. B. C.)*

Subscriptions, including 52 regular weekly issues, and special daily editions published from time to time in New York, or in places other than New York, payable in advance and postage free. United States, U. S. possessions and Canada: 1 year, $6.00; 2 years, $10.00; foreign countries, not including daily editions: 1 year, $8.00; 2 years, $14.00.

Single copies, This Issue $1.00 each.

H. E. McCandless, Circulation Manager, 30 Church St., New York, N. Y.

# Railway Age

With which are incorporated the Railway Review, the Railroad Gazette and the Railway Age-Gazette. Name registered U. S. Patent Office.

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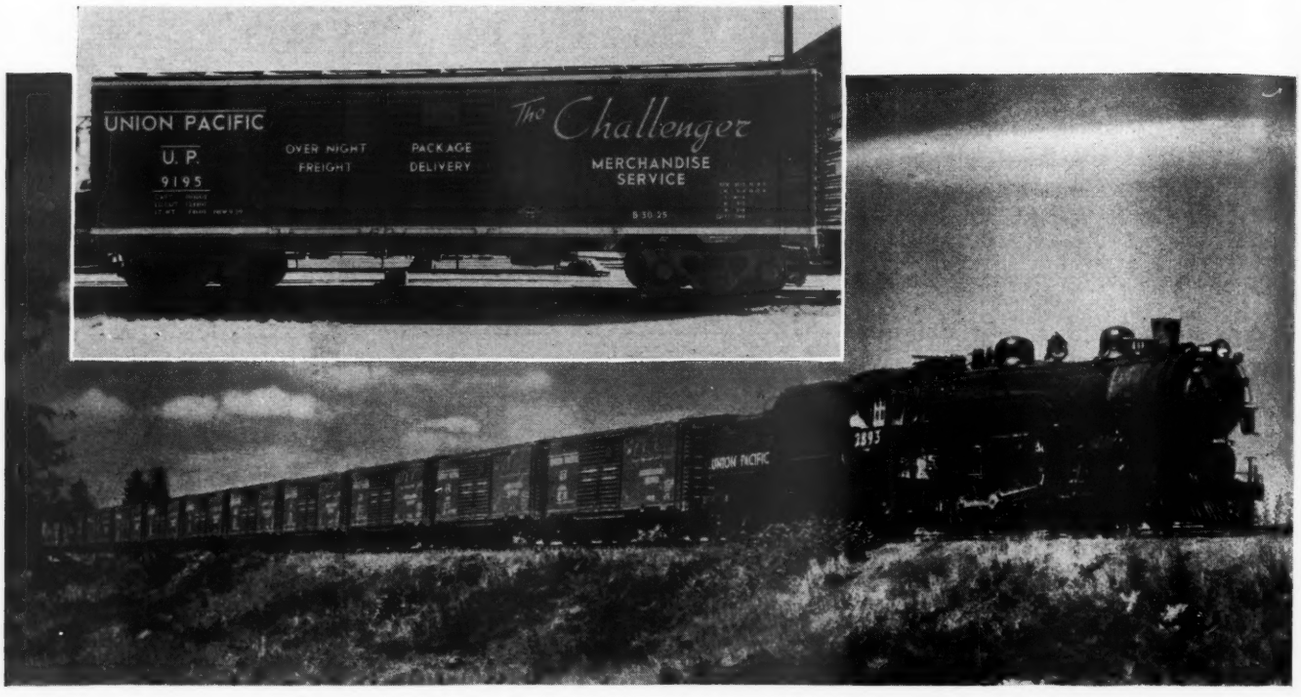
# HERE COME THE "*Challenger*" FREIGHT CARS— WITH OVER 100,000 MILES OF SERVICE BEHIND THEM

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RAILWAY AGE

# Freight Transportation Progress: 1917-1918 Compared with 1941

This is the second Freight Progress Issue of the *Railway Age*. There has occurred since the first issue was published on May 25, 1940, the most revolutionary change in conditions affecting railroad transportation that ever occurred in a single year, excepting, perhaps, in 1917, during eight and one-half months of which this country participated in the first World War.

Our federal government increased its expenditures from 735 million dollars in 1916 to 2 billion in 1917; to 12 billion 700 million in 1918, and to 18 billion 500 million in 1919 because of our participation in that war. Partly—but not entirely—due to this, the facilities of our railways were over-taxed. Less than a year ago our government again started a program of expenditures for national defense that have increased very rapidly, and apparently will become much larger than those made by it during the last war. Largely—but not entirely—owing to this, there has occurred a very large and thus far rapidly accelerating increase in railway traffic.

This presents to the shipping public and the railroads a great problem. It is similar to the problem presented to them in 1917—many believe not only similar, but larger and more difficult. Government operation of railroads was adopted at the beginning of 1918. Many anticipate—some with fear, some with hope—that government operation will soon be adopted again.

### Chairman Eastman's Views

Chairman Eastman of the Interstate Commerce Commission, in a recent address, expressed the opinion that the country's transportation system can carry the burdens which will be placed upon it, but said there are dangers in the situation. One of these lies in the fact that the railroads and other carriers are private enterprises and it is the duty of their managements to safeguard the interests of their owners. He anticipated that, as a result, the tendency will be to be conservative in assuming financial obligations which will be permanent, in order to meet defense needs which, it is hoped, will be temporary. "The way to avoid this danger," he said, "is for the government to assume the financial burden of additional transportation facilities needed only in anticipation of defense demands." He saw no indication at present that any plans are afoot to have the government take over the railroads, but "the government will not long hesitate to assume control if by so doing it can see a way of correcting or averting dangerous conditions." As private managements have this in mind, he believes they will do everything in their power to avoid defaults and deficiencies.

Those most concerned—i. e., shippers and railroads—should frankly recognize the conditions and dangers with which they are confronted and face them squarely. But it is as important to recognize the **contrasts** as the **similarities** in the conditions confronting shippers and railroads in 1917 and 1941; because the contrasts are much greater than the similarities. These contrasts are due to the very wide difference between the economic and transportation developments that occurred in the period preceding 1917 and in the period preceding 1941. And one of the most important of these developments has been the progress to which this issue of *Railway Age* is devoted—i. e., progress during the period preceding 1941 in increasing the efficiency of railway operation and improving railway freight service.

### Great Contrasts Presented By Two War Periods

It is of the utmost importance at this juncture to emphasize by presenting facts the contrasts between the railway transportation problem when this country entered the first Great War in April, 1917, and the railway transportation problem now, because so few realize how great these contrasts are. If and when those most directly concerned are made fully to realize them, there will be much less concern about the prospective situation, and less temptation to make it worse by doing very unwise things, as was done in 1917 and 1918.

In its issue of June 15, 1917, the *Railway Age* published an editorial showing that the American Railway Association had reported the following **net shortages** of freight cars on the first day of each of the first five months of that year: January, 62,000; February, 110,000; March, 131,000; April, 145,000; May, 145,500. These were the largest shortages ever reported up to that time; 1917 was the first year in which shortages had ever increased throughout the first four months; and the first four of these shortages were reported before this country entered the Great War.

Contrast these figures with those of the Association of American Railroads showing that in the first halves of the first three months of 1941 there were the following car **surpluses**: January, 125,000; February,

99,000; March, 77,000. And then reflect upon the facts that (1) at the beginning of 1941 the railways had 700,000 less freight cars than at the beginning of 1917, and yet (2) in the first two months of 1941 handled 14 per cent more freight than in the first two months of 1917 and 23 per cent more than in the first two months of 1918.

### Railroad Capacity Not Determined By Equipment

These figures are surely an answer to those who, believing that the number of freight cars is the measure of railway capacity, and knowing that the number has declined during the depression, have been predicting that the railways will be unable to handle even the traffic of 1941 because they did not accept in 1940 the conclusion of New Deal theoreticians in Washington that they should immediately order a half million freight cars even if the necessary financing had to be done by the government.

A railroad consists of management, employees, tracks, terminals and other facilities, as well as of equipment. The railroads of this country represent today an investment in all facilities 8 billion dollars larger than at the beginning of 1917; and their capacity depends very much less on how many freight cars they have, than on how much and what kind of all facilities, including equipment, they have, and on how all their facilities are utilized.

Let us now revert again to 1917 and, because of the light it will throw on present and prospective transportation conditions, consider what caused the transportation conditions that existed throughout 1917.

### Two Widely Different Decades

In 1916 the railroads had had a very large increase in their freight business and had handled the largest traffic in their history to that time. It was 366 billion ton-miles—20 per cent larger than in any previous calendar year, 32 per cent larger than in the year ended June 30, 1915, and 70 per cent larger than a decade before in the year ended June 30, 1906. At the beginning of 1917 they had more facilities of every kind than ever before—including 14,000 more locomotives and 500,000 more freight cars than ten years before. But their traffic had increased so much throughout two decades—almost 300 per cent since 1896—that it had outgrown the great expansion of their facilities that had occurred; and, with the railways operating independently of each other, the traffic exceeded their capacity in the early part of 1917. Hence the large car shortages mentioned.

Contrast with these developments what has occurred in the last decade. In 1940 the country was still in a depression which had lasted eleven years, and railway traffic, measured by ton-mileage, was 23 per cent smaller than in 1929 and only about 4 per cent larger than in 1916. Obviously, therefore, it would be entirely fallacious to base on the increase in traffic that they were able to handle in 1917 and 1918 any assumption whatever regarding how large an increase in traffic they could handle in 1941 and thereafter.

### The Alleged "Necessity" of Government Operation

As, however, reference is being made to the alleged "necessity" of adopting government operation at the beginning of 1918 as indicating that it may, or will, have to be adopted again because of present and prospective conditions, it is well to recall just what occurred in 1917 and 1918. This country entered the last war in April, 1917. Immediately thereafter the chief executives of the railways met and created the Railroads' War Board composed of five railway chief executives to so operate all the railways as a single system as to enable them to handle the maximum practicable traffic. The Railroads' War Board directed their operation throughout the last two-thirds of 1917; and, as already indicated, government operation through the Railroad Administration was adopted at the beginning of 1918; and it continued for two years. However, the armistice was signed on November 11, 1918; and, therefore, as regards government operation, we are concerned here only with what it accomplished in 1918, and especially until the armistice was signed.

It has been claimed that government operation was not only "necessary" to enable the railways to render adequate service, but that it achieved a great increase in efficiency. Let us see, then, how much the amount of traffic handled actually was increased during this country's participation in the war, first by the Railroads' War Board, and later by the Railroad Administration.

### What Actually Occurred in 1917

The facts are set forth in the statistics in Table I. The first statistics ever compiled showing the amount of traffic—tons carried one mile—handled by months were compiled for the Railroads' War Board for the months of May, 1916 and 1917; and they have continued to be compiled since. The accompanying statistics show that in 1917 as compared with 1916 the traffic handled increased 16 per cent in May and 23 per cent in June. The percentage increases in 1917

**Table I.—Freight Traffic (Revenue Ton-Miles) Handled in 1917 under Private Operation and in 1918 under Government Operation**

| | 1917 (000) | Per cent Inc. or Dec. 1917 compared with 1916 | 1918 (000) | Per cent Inc. or Dec. 1918 compared with 1917 |
|---|---|---|---|---|
| Jan. | 29,777,603 | (*) | 24,665,552 | −17.2 |
| Feb. | 25,836,735 | (*) | 26,591,083 | + 2.9 |
| March | 29,145,578 | (*) | 31,341,327 | + 7.5 |
| April | 31,464,837 | (*) | 34,256,247 | + 8.9 |
| May | 35,443,351 | +16.0 | 33,718,307 | − 4.9 |
| June | 35,454,238 | +23.0 | 34,336,702 | − 3.2 |
| July | 34,081,914 | +20.0 | 35,979,290 | + 5.6 |
| Aug. | 33,136,229 | +12.2 | 35,660,217 | + 7.6 |
| Sept. | 32,666,038 | + 2.9 | 35,763,380 | + 9.5 |
| Oct. | 36,312,800 | + 5.3 | 36,612,374 | + 0.8 |
| Nov. | 34,475,535 | + 2.9 | 32,903,558 | − 4.6 |
| Dec. | 30,265,998 | − 2.6 | 31,121,821 | + 2.8 |
| TOTAL | 388,060,862 | | 392,943,865 | + 1.3 |

* No monthly figures available for 1916.

subsequently receded until December when there was an actual decline (as compared with 1916), in the traffic handled of 2.6 per cent. The increase in the entire nine months of operation by the Railroads' War Board, however, was 9.8 per cent.

The figures raise one question of great importance. Why did the traffic handled increase so much more in the first three months—May, June and July, 1917—of Railroads' War Board operation than subsequently? Every person who then closely followed what occurred in 1917, or who has since studied what then occurred, knows the answer. The government gave a multiplicity of army officers, naval officers and other government officials authority to order the railroads to give priority to all freight that they wanted moved immediately; and the handling of traffic was completely demoralized by the issuance of innumerable and conflicting priority orders. In addition, the government ordered transportation to the ports of enormously greater quantities of freight than it provided ships to take away, with the result that many thousands of loaded cars accumulated, first at port terminals, and then gradually in terminals and on tracks remote from the ports, thus causing severe congestions and arresting for a long period the movement of many thousands of cars. A normal increase between June and October in the amount of traffic handled is about 15 per cent. The increase in October, 1917, over June was only 2½ per cent. The transportation picture in the fall of 1917 would have been widely different if normal operation had not been prevented by government interference.

## Private Versus Government Operation in 1917 and 1918

The statistics in Table I also show what occurred under government operation in 1918. The amount of traffic handled by the government's Railroad Administration in the first quarter was 2.6 per cent less than in the first quarter of 1917, before either the Railroads' War Board or the Railroad Administration was in existence. The amount handled in both May and June was less than in these first two months of Railroads' War Board operation in 1917; and this was in spite of the fact that at the inception of government operation all authority to issue transportation priorities was taken from other government officials and vested solely in the government's Director General of Railroads. Subsequently in 1918, excepting in November, the amount of freight handled exceeded the amount handled in 1917; but the increase in the entire year 1918 under government operation over the entire year 1917 under private operation was only 1.3 per cent, as compared with an increase in the entire year 1917 over 1916 (under private operation) of about 9 per cent.

Although the government's director general had and exercised many kinds of power that the Railroads' War Board did not have, there is nothing in this record to indicate that government operation in 1918 was more efficient than private operation in 1917. Nor do the detailed operating figures support any such view. The average number of freight cars available averaged 3 per cent more in 1918 than in 1917. But the average daily movement of cars declined from over 26 miles to less than 25, or 4.6 per cent; and, in spite of heavier average loading of cars, the average number of tons carried one mile per car per day declined from 495 to 490.

Just how, with these records of private and government operation in 1917 and 1918 confronting him, anybody can believe he can rationally contend in 1941 that government operation may become "necessary," or even desirable, in order to increase or improve railway service in 1941 or any future year seems quite inconceivable.

**Table II.—Comparative Freight Operating Efficiency**

| | First two months of | | | | Per cent Inc. or Dec. 1941 compared with | | |
|---|---|---|---|---|---|---|---|
| | 1917 | 1918 | 1929 | 1941 | 1917 | 1918 | 1929 |
| Net tons (revenue and non-revenue) carried one mile (millions) | 61,557 | 56,973 | 77,349 | 70,252 | +14.1 | +23.3 | − 9.2 |
| Locomotives in road freight service | 35,034 | 35,630 | 29,782 | 21,902 | −37.5 | −38.6 | −26.5 |
| Average miles per locomotive per day | 69.6 | 61.5 | 64.6 | 79.4 | +14.1 | +29.1 | +22.9 |
| Freight cars on line | 2,287,117 | 2,363,861 | 2,457,855 | 1,863,141 | −18.5 | −21.2 | −24.2 |
| Tons per train | 592 | 596 | 774 | 846 | +42.9 | +41.9 | + 9.3 |
| Tons per loaded car | 26.2 | 28.9 | 27.4 | 27.6 | + 5.3 | − 4.5 | + 0.7 |
| Average miles per car per day | 24.6 | 20.0 | 30.9 | 37.1 | +50.8 | +85.5 | +20.1 |
| Net ton miles: | | | | | | | |
| Per locomotive | 1,757,065 | 1,599,018 | 2,597,173 | 3,207,600 | +82.5 | +100.6 | +23.5 |
| Per car | 26,922 | 24,100 | 31,468 | 37,710 | +40.1 | +56.5 | +19.8 |

## Progress in Freight Transportation—1918 and 1941

But let us take a look at the picture of present railroad transportation. The improvement that has been made in railway freight handling efficiency is strikingly illustrated by comparison of what the railways did during the last war with what they have done recently; and, of course, what they can do in the immediate future is best indicated by what they have done in the immediate past. Statistics of freight operation in 1941—excepting carloadings—are available for only the first two months of this year. Therefore, in the accompanying Table II we give statistics indicating the efficiency of operation in the first two months of 1917 and 1918, in the first two months of 1929, when traffic was the largest in history, and in the first two months of 1941.

It will be noted that the traffic handled in the first two months of this year was only 9 per cent smaller

than in 1929, and, as already stated, was 14 per cent larger than in 1917 and 23.3 per cent larger than in 1918 under government operation. The number of freight locomotives and cars (including privately-owned freight cars) is much smaller in 1941 than in any of the preceding three years with which comparisons are made; and yet the traffic has been handled thus far in 1941 with entire satisfaction to the shipping public, while—in contrast with 1917 and 1918—large surpluses of both locomotives and cars have been maintained. The explanation is afforded by the statistics showing the greatly increased efficiency with which locomotives and cars are now used. As compared with 1918 average tons per train increased 42 per cent in the first two months of 1941, and average mileage made daily by each freight locomotive increased 29 per cent, with the result that the average amount of freight service rendered with each locomotive, measured in tons carried one mile, was 82.5 per cent greater than in the first two months of 1918. Average tons per loaded car were 4.5 per cent less than in 1918, but the increase in the average miles traveled by each freight car daily was 85½ per cent, and consequently the average amount of freight service rendered with each car increased 56.5 per cent.

Of course, these great increases in the efficiency with which locomotives and freight cars are being used in 1941 show why it has been possible, in spite of the declines in the numbers of locomotives and cars, to handle so much more traffic than in 1917 and 1918 while maintaining surpluses of equipment, in contrast with the large shortages of equipment that characterized that period. And it cannot be too strongly emphasized that this great increase in efficiency has been made possible largely by co-operation of the shippers' regional advisory boards.

### What of the Future?

The figures comparing 1918 and 1941 make a much more favorable showing for 1941 than those comparing 1917 with 1941, because the efficiency of operation in the first two months of 1918 under government management was lower than in the first two months of 1917. The comparisons of 1929 and 1941 are also notable. They show that in the first two months of 1941 the railroads had available 26½ per cent less locomotives and 24 per cent less freight cars on line than in 1929, but rendered 23½ per cent more freight service with each locomotive and 20 per cent more with each freight car—a remarkable improvement to have been made during a decade of depression.

However, shippers are now most concerned with the future. How well, then, in view of the fact that the railways have less equipment than a quarter century ago and than a decade ago, but are being much more efficiently operated, may they be expected to serve their customers in future? In attempting to answer that question this paper can only summarize what it said in an editorial in its issue of May 10, entitled "Prospective Railway Traffic and Equipment." The railways placed orders for about 101,000 new freight cars in the twelve months ended April 30, 1941—an increase of almost 45,000 over orders in the twelve months ended April 30, 1940, and larger than the orders in any calendar year since 1929, when they were 111,000. On April 1, 1941, the railways had on line 1,827,000 cars (including private-line cars). They had on order at that time 42,335 cars; and in April they ordered 16,091. Of the cars on line April 1, about 1,724,000 were in serviceable condition.

### Handling Next Fall's Peak Load

If traffic at its peak next October should show an increase of about 25 per cent, it would be about 1 million carloads a week. The best record heretofore made indicates that the railways required about 1,850,000 cars to provide 1 million a week for loading; but, in view of the increases in efficiency already accomplished, this record undoubtedly can be improved.

It would appear now, therefore, that if they could before fall acquire 50,000 of the new cars now on order and put in condition 50,000 of those in bad order on April 1, they would have enough available to cope successfully with next fall's peak load. But it seems that two things are essential to insure an adequate supply of equipment next October. One is the production, meantime, of all the equipment—both locomotives and freight cars—now on order; the other, the most efficient possible use of the available supply of cars.

In order that all the equipment now on order may be produced before next fall, it is essential that the equipment building companies and railways building equipment in their own shops shall be furnished all the materials necessary for this purpose. In order that this may be done they will have to be placed high enough on the government's priority list for materials; and apparently they will be given the needed priorities.

### Needed Co-operation from Shippers

However, it will be essential in addition throughout the rest of the year for the most efficient possible use to be made of all available equipment.

Shippers will have to load all cars as heavily as practicable, load and unload them as expeditiously as practicable and refrain from ordering any more cars than required to meet their immediate necessities.

There also will be needed co-operation from both shippers and government in increasing the number of days a week that cars are loaded and unloaded. In many industries a five-day work-week is in effect; which means, of course, that these industries now load and unload cars only five days a week. Increase of their loading and unloading to at least six days a week would substantially increase the average daily movement of cars; and nothing else could contribute so much toward prevention of a car shortage.

(*Continued on page 917*)

# What the

## Industrial traffic managers and other business leaders like improved freight service and want more

THE industrial traffic manager is a one-man judge and jury combined, who is daily called upon to weigh the relative merits of rail versus other forms of transportation and render judgment that means money in the railroad till—or not, as the case may be. Once upon a time (and this is no fairy story, despite that beginning) they had to use railway service—or else. That time has now passed. Today, the industrial traffic manager, if he is not satisfied with railway service, has a choice of several alternatives. Admittedly, the railways were somewhat slow to realize that conditions had changed, but that they are now coming to that realization rapidly is demonstrated in other articles in this issue.

We have gathered here the opinions of the presidents of the National Industrial Traffic League and the National Association of Shippers Advisory Boards; the chairmen of the regional advisory boards and other prominent industrial traffic managers. Their letters are typical of hundreds received; and, in the essence, represent the voice of the customer. The railways would do well to heed it. Every one quoted is a large buyer of transportation—some have praised the railways and others are critical of certain phases of service—but all are confident of the ability of the railways to meet the problem successfully. This, though, is the shipper's story. Let's let him tell it.

### *What the Shippers Think*

**"Through Blizzards, Fog and Zero Weather, the Railways Continue to Function—the One Dependable Agency on Which We Can Rely Every Day Throughout the Year."**

## From The East

**GEO. F. HICHBORN, Director of Traffic**

**UNITED STATES RUBBER COMPANY, New York:**

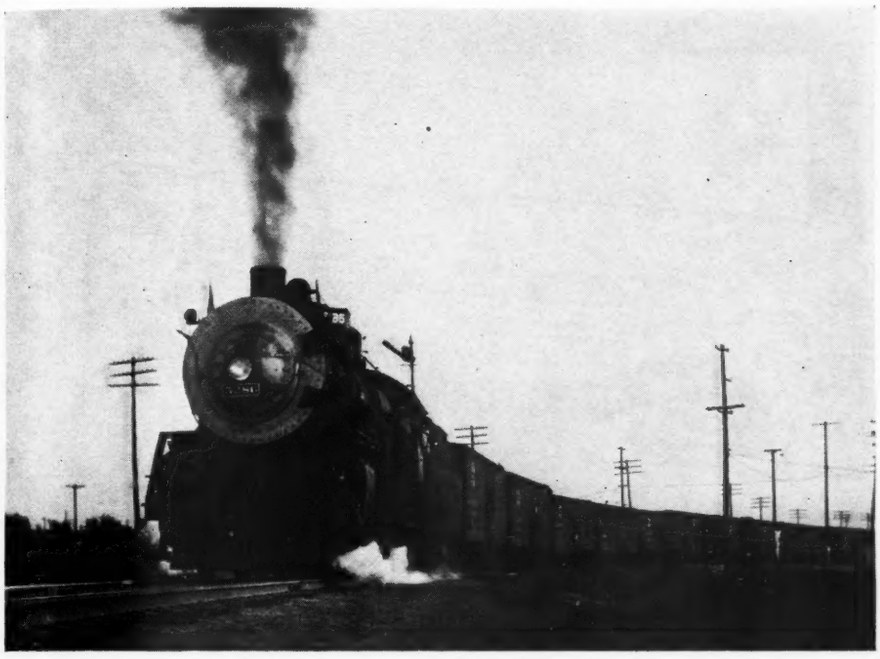
The railroads are doing a good job, and we have no complaints to make of service in any part of the United States. We do find that there is some delay in the movement of cars at terminals, due principally to shipper's or consignee's sidings not being of sufficient size to take care of their expanding business. In other words, where an industry has operated for many years with a two-car siding, a four, six or eight-car siding is now required, but there is not sufficient money or land on which to extend the siding. This means that the carrier now has to switch plant sidings two or more times daily, where formerly once was all that was necessary. The main line service is adequate, and on much faster schedules between important terminals than in the past.

**R. E. PERKINS, Assistant Traffic Manager**

**STANDARD BRANDS, New York:**

As a manufacturer of perishable and semi-perishable food products, Standard Brands has need for speed as well as careful handling. The railroads have provided both, enabling us to carry on our distribution with reliability and efficiency. While Standard Brands has its own nation-wide delivery system, it is also one of the nation's largest customers of the railroads and has found them efficient and co-operative at all times. The railroads are doing a first rate job and will prove an important factor

# Shippers Think



## *What the Shippers Think*

**"The Increased Speed and Reliable On-Time Performance of the Overnight and Other Super-Fast Trains Has Enabled Us to Operate Our Plant More Efficiently."**

in furthering our present all-out defense program of raw materials by keeping supplies and manufactured goods moving with unfailing regularity. In this great national emergency, the railroads are an integral part of the life line of the United States and of Great Britain as well.

**A. J. SEVIN, General Traffic Manager**

**PITTSBURGH PLATE GLASS COMPANY, Pittsburgh:**

The railroads have made remarkable progress in handling freight, particularly carload, but there is still plenty of room for improvement in handling less-carload shipments. While they have considerably improved their less-carload service between large industrial centers, unless they can improve their service on less-carloads between other points, they cannot hope to compete with the trucks.

**V. R. TUPPER, General Traffic Manager**

**REMINGTON-RAND, INC., Buffalo, N. Y.:**

During the depression, a demand arose from shippers and consignees for speedier transportation service. To meet this demand, the railroads instituted pick-up and delivery service, thereby materially reducing the time in transit of less-than-carload shipments. By a campaign of education, shippers were led to realize the advantages of heavier loading, the advantages of unloading and loading cars promptly, and the disadvantage of detaining cars. By doing these things, the shipper has made a greater car supply available. The establishing of all-commodity carload rates between various points has been a great help to shippers of mixed merchandise, and has permitted them to load heavier and more frequent carloads.

The educational propaganda of the carriers and the support by the carriers of the Regional Advisory Boards in forcibly calling the "perfect shipping month" and the advantages of good packing and proper loading of cars to the attention of shippers, has been a great boon to shippers and carriers. The endeavor to simplify classification to meet shipper's requirements will undoubtedly result in material benefits; the study to reduce packing requirements will also be helpful. All of these developments have resulted in definite improvement in railroad service; further research and contact with shippers should result in still more improvement.

**FRANK E. GUY, General Traffic Manager**

**UNIVERSAL ATLAS CEMENT COMPANY, New York:**

The railroads are continuing to give good service; even better than might reasonably be expected in view of the substantial increases in weekly carloadings. In my opinion, they can furnish all the transportation service that will be needed, provided shippers and receivers will load and unload cars promptly. I think the railroads are justified in bringing to the attention of shippers any instances where receivers are unduly delaying the unloading of cars, thereby giving the shippers the opportunity to attempt to correct the situation.

I am not worried about the road haul movement of the railroads, but I am somewhat concerned about yard and terminal movements. The railroads, like industry generally, were compelled to reduce their forces during the depression. I am now fearful that many of the railroads are endeavoring to handle the increased business with this reduced personnel. In some instances this means the overworking of employees. I appreciate that not only have many furloughed men found other positions, but also that it takes some time to train a new employee. The draft and higher wages in industry may be deterrents, but I think the railroads should be adding to their forces and training more men in anticipation of

# What Shippers'

J. E. BRYAN, President
General Traffic Manager
Wisconsin Paper & Pulp Manufacturers
Traffic Association
28 E. Jackson Blvd., Chicago, Ill.

R. R. LUDDECKE, Vice-President
General Traffic Manager
Standard Brands, Inc.
595 Madison Ave., New York, N. Y.

EDWARD F. LACEY, Executive Secretary
The Munsey Building
Washington, D. C.

T. C. BURWELL, Chairman Executive Committee
Vice Pres. & Traffic Manager
A. E. Staley Mfg. Co.,
P. O. Box 151, Decatur, Ill.

ROY W. CAMPBELL, Treasurer
Manager Traffic Department
Butler Paper Corporations
223 W. Monroe St., Chicago, Ill.

JAMES D. MANN, Asst. Treasurer
The Munsey Building
Washington, D. C.

## THE NATIONAL INDUSTRIAL TRAFFIC LEAGUE

PROMOTER OF SOUND ECONOMICAL TRANSPORTATION

OFFICE OF THE PRESIDENT
28 East Jackson Boulevard
Chicago, Illinois

May 24, 1941

To American Shippers:

The progress made by the railroads in the past year has been amazing and with the beginning of a new year we find there is no dimunition of effort. They are making further plans for more and better cars, engines with greater tractive power; a betterment of time schedules and many general improvements throughout the entire plant.

While all this activity gives the shipping public a feeling of confidence and security, it is well that they, the users of transportation, keep before them always, the part they must play to assure for all the full benefit of this service so necessary to meet present conditions. This means heavy loading of cars, prompt and clean unloading, and orders for equipment sufficient only to meet known current requirements.

Our country is facing a greater crisis than has ever been known in the lives of most of its people. We must all join in nationwide cooperation for the successful completion of the defense and preparedness plans the government has called upon us to carry out.

We are given assurance of the accomplishment of those plans by reason of the wonderful improvements made by the railroads in their equipment and power and for the maintenance of their well organized departments which, through their responsive and invaluable assistance, make that equipment and power readily available to the shipping public.

It is because of these well organized departments, consisting of loyal men trained by actual experience in their duties, and because workable plans have been carefully made to avoid congestion, delays, car shortages and other failures, that the public feels secure against any transportation disruption or the necessity of government control and operation of the railroads.

The National Industrial Traffic League congratulates the railroads on another "Year of Progress" and gives its assurance of complete cooperation in the promotion and success of the nation's defense program.

Sincerely yours,

J. E. Bryan
President.

# Spokesmen Say

President:
A. W. VOGTLE,
Manager, Traffic & Sales,
DeBardeleben Coal Corp.
Birmingham, Ala.

Vice President:
G. H. SHAFER,
General Traffic Manager,
General Timber Service, Inc.
St. Paul, Minn.

Vice President:
W. H. DAY,
Mgr., Transportation Dept.,
Chamber of Commerce
Boston, Mass.

National Secretary:
CARL GIESSOW
Director of Traffic Bureau
Chamber of Commerce
St. Louis, Mo.

## NATIONAL ASSOCIATION OF SHIPPERS ADVISORY BOARDS

IN CO-OPERATION WITH AND ADVISORY TO

ASSOCIATION OF AMERICAN RAILROADS

(CAR SERVICE DIVISION)

HEADQUARTERS: TRANSPORTATION BLDG., BIRMINGHAM, ALA.

GENERAL CHAIRMEN
Regional Shippers
Advisory Boards:

Allegheny Board:
LEONARD G. HULTS, T.M.,
United Engineering
& Foundry Co.,
Pittsburgh, Pa.

Atlantic States Board:
GEO. F. HICHBORN, Dir. Traf.,
U. S. Rubber Co.,
New York, N. Y.

Central Western Board:
ALDON J. ANDERSON, A.G.M.
U. S. Smelting & Refg. Co.,
Salt Lake City, Utah

Great Lakes Board:
H. J. CARROLL, G.T.M.,
Goodyear Tire & Rubber Co.,
Akron, Ohio.

Mid West Board:
F. A. SCHLEIFER T.M.
Franklin County Coal Corp.,
Chicago, Ill.

New England Board:
W. F. GARCELON, Treas.,
American Tool & Mach. Co.,
Boston, Mass.

Northwest Board:
P. F. SCHEUNEMANN, A.G.M.,
Peavey Elevators,
Minneapolis, Minn.

Ohio Valley Board:
N. S. WORRELL, C.D.M.,
American Zinc Oxide Co.,
Columbus, Ohio.

Pacific Coast Board:
W. S. JOHNSON, Pres.,
Tarter, Webster & Johnson, Inc.,
San Francisco, Cal.

Pacific Northwest Board:
W. G. PERROW, D.M.,
Lehigh Portland Cement Co.,
Spokane, Wash.

Southeast Board:
A. W. VOGTLE,
Mgr., Traf. & Sales,
DeBardeleben Coal Corp.,
Birmingham, Ala.

Southwest Board:
J. C. MURRAY, T.M.,
Little Rock Chamber of Comm.,
Little Rock, Ark.

Trans-Missouri-Kansas Board:
CARL GIESSOW, Dir., Traf. Bur.,
Chamber of Commerce,
St. Louis, Mo.

May 24, 1941.

To American Shippers:

Again the National Association of Shippers Advisory Boards has occasion to congratulate the railways upon their success in improving freight service, as outlined in this Freight Progress issue of the Railway Age.

This year, more than ever, the performance of the railways is vital to the nation's welfare and they have met the challenge successfully. There are complaints all about us of "bottle-necks" and statements that strategic industries are not yet in their defense stride, but these vast new demands on industry, this rapid transition to a war-time economy, have found no bottle-necks in rail transportation and the railways are definitely in the defense stride.

The earnest, sincere traffic and transportation men making up the personnel of the Shippers Advisory Boards are fated to play a vital part in the defense program. They are ready to aid the railways in meeting the emergency and in further carrying out the plans formulated by the railways for keeping the flow of traffic moving without let or hindrance. They have the utmost confidence that, through mutual co-operation, the staggering burdens imposed on all of us by the present situation may be carried successfully.

This issue of the Railway Age carries between its covers the story of an unparalleled record of achievement. Congratulations to the railways for the part they have played and will continue successfully to play in moving the nation's traffic.

Sincerely,

A. W. Vogtle

President

the peak-load. Mechanically they are well prepared, but it takes men to run a railroad.

**W. B. SHEPHERD, Assistant General Traffic Manager**

**ALUMINUM COMPANY OF AMERICA, Pittsburgh, Pa.:**

Prior to the formation of the advisory boards there was no satisfactory channel of contact between railroad operating officers and shippers. The boards have supplied this contact and now provide a common meeting ground. They have been largely responsible for a high degree of customer consciousness among railroad operating officers, and have instilled in shippers a realization of the value of advance planning and co-operative effort. Outstanding examples of the beneficial results thus attained are seen in increased road speeds, stepped-up terminal handling, extension of interline schedules and adequate car supply. These are direct results of co-operative planning and anticipation of the needs of industry for transportation, brought about by board forecasts. Corollary to these improvements and traveling hand-in-hand with them are newer and better types of equipment and motive power, more scientific loading and stowing and greater progress in the matter of clean cars.

A large part of these improvements are to be credited to the co-operative effort made possible and encouraged by the advisory boards. Almost unique in modern business, this joint undertaking by the operators and users of transportation to create and maintain jointly a facility needed by both marks a forward step in industrial thinking. It recognizes the principle that the main interests of seller and buyer are not opposed, but supplementary to each other.

In fully unloading and cleaning an empty car, thus making it immediately available to the next user, the receiver of freight has increased the car supply, and by so doing benefited himself. Better packing and stowing, decreasing the chance of loss or damage, enable a shipper not only to reduce the tremendous claim burden of the carriers (and incidentally the cost of transportation), but at the same time to benefit himself directly by having his goods delivered to his customer in first-class condition, and thus increase the good-will he has tried so hard to build.

On the other side of the picture, the railroads, by their contacts in the boards and by the board forecasts, are able to plan car supply and movement in advance. Knowing their clients personally and meeting them frequently, they soon learn their needs as to types of equipment and types of service. They acquire a sympathetic understanding of their shippers' problems, and together are able to work out solutions. In heavier loading and proper use of the rarer types of cars alone, countless instances can be cited where co-operation brought about in board meetings has resulted in tremendous increases in the supply of available cars. Now that we are facing another period of expansion when the railroads will be called upon to handle more traffic than ever before in their history, consultation and understanding between the suppliers and the users of this vital facility are imperative. We have the machinery set up and working. The shippers advisory boards are ready to do the job.

**S. R. MOYER, General Traffic Manager**

**INTERNATIONAL SALT COMPANY, Scranton, Pa.:**

This company is a large producer and shipper of both rock and evaporated salt. It has mines and refineries in New York, Michigan and Louisiana. We have appreciated the improved service rendered by the railways. Their over-the-road service is excellent, and we have found little or no reason to complain regarding the condition of the equipment furnished or the supply of cars required for the transportation of our product.

***What the Shippers Think***

**"With the Purchase of More Than 110,000 Freight Cars in the Last 12 Months, with Increased Operating Efficiency and With Shipper Co-Operation Through the Advisory Boards, Ruinous Car Shortages Should Be Avoided."**

## From The South

**G. H. ALFRIEND, Traffic Manager**

**VIRGINIA-CAROLINA CHEMICAL CORPORATION, Richmond, Va.:**

Railroad service has improved decidedly during the last few years. While there have, of course, been failures in isolated cases, the general trend has been toward improved service.

**M. M. EMMERT, Traffic Manager**

**THE COCA-COLA COMPANY, Atlanta, Ga.:**

The railroads are doing a magnificent job. The whole atmosphere is so much better than it was during the last war, and with the groundwork that has been laid, the track work and new equipment will enable the railroads to do the job that is ahead of them.

**ALONZO BENNETT, Vice-President**

**FEDERAL COMPRESS & WAREHOUSE COMPANY, Memphis, Tenn.:**

The handling and merchandising of cotton have been completely revolutionized within the last ten years and the railroads have had as much to do with the changed conditions as any other agency. In the last two years, insofar as cotton and this company are concerned, the railroads have been put to the test and their improved

service has enabled them to meet their competition, which is continually growing, wherever they find it. Our suggestion to the carriers is that they continue to improve their operations in both equipment and man-power and not allow the temporary upward trend of business caused by the defense program to permit them to slip back to the "old railroad days."

**J. C. MURRAY, General Chairman**

**SOUTHWEST SHIPPERS ADVISORY BOARD, and Traffic Manager, CHAMBER OF COMMERCE, Little Rock, Ark.:**

The expedition with which our railroads are transporting the rapidly expanding traffic tendered them is eliciting very favorable comment in the Southwest and is remarkable when considered in connection with the dark days through which they have passed, when income was so far below expenditures for normal maintenance. It is an indication of preparedness under adverse conditions which could only occur through intelligent transportation management. The military situation, involving the necessity for immediate handling of increased passenger and freight traffic, has been met in a commendable manner by the carriers. The prompt and efficient handling of many troop trains, as well as materials essential in the construction of our camps, is an example of their previous preparedness. The views expressed by members of the Southwest Shippers Advisory Board are that there need be no concern as to the ability of the railways to handle a great deal of additional traffic and our shippers have repeatedly asserted their willingness to co-operate through loading, unloading and releasing cars without delay, as well as confining orders to equipment for immediate loading only.

The grain situation presents a problem which may cause concern if the railroads should, by reason of competition or other conditions, permit the loading of cars without assurance of prompt unloading. The capacity of country and terminal elevators is now utilized and the disposition of the current crop is problematical, particularly when the government now has about 300,000,000 bushels under loan, stored on farms and in the country elevators.

A criticism which may be offered deals with the handling of merchandise. Many cars are being used to transport merchandise in small quantities and this method of handling is considered essential to meet motor carrier competition. It is questionable whether this policy results in sufficiently attractive revenue to the rails when considered in the light of the necessity for maintaining a car supply adequate for the service for which the railway is constructed, viz., carload freight. It would appear to the writer that a readjustment of freight charges in such manner as to attract carload, rather than less-than-carload, shipments would make many additional cars available.

While looking upon present private operation with a feeling of gratitude and upon future private operation with optimism, there must be a maximum of co-operation between the shipping public and the carriers if this splendid record is to be continued. The normal movement of freight may sometimes be delayed in order to enable large movements for national defense to be handled but the ability of our manufacturers, jobbers, and agricultural producers to continue their services without unnecessary interruption should be given every consideration. With the continued addition of more attractive passenger equipment, close observation of the use of freight cars, and co-operation between the railroads and their patrons, we need have no fear regarding the railroads meeting any emergency with operation under private control, and the shipping interests of this country will be satisfied with no other kind of control.

## From The Middle West

**T. J. MALONEY, Manager, Traffic Department**

**INTERNATIONAL HARVESTER COMPANY, Chicago:**

Ours is an industry that leans heavily upon the railroads for the transportation of the bulk of our machines and equipment; hence we are constantly suggesting improvements so that they can serve us better; at the same time we never ignore an opportunity to express our compliments and gratitude for the things that are being done by the carriers to make their service more attractive and economical. There are two outstanding features that we recognize as being the most progressive from our standpoint.

(a) Improvement in the design and size of cars—especially flat cars and special-device box cars. They

*What the Shippers Think*

**"Rail-Highway Co-Ordination Has Given Us a Much More Flexible Service and Cut Days Off Our Shipping Schedules to the Smaller Towns."**

load and unload quicker—handle goods with less damage and eliminate the expense of dunnage.

(b) Modification of loading rules in line with new methods developed and proved satisfactory by shippers, resulting in safer and cheaper loading.

Naturally increased speeds of trains and terminal services are beneficial to all of us but those are the things usually mentioned and well known to all. There are many improvements yet to be made and we hope and think that the carriers will continue their progressiveness. Some of these are now under consideration, awaiting favorable action by the carriers—one in which we are particularly interested is the allowance for dunnage in box cars, approval of which we cannot help but feel would be of mutual benefit to shippers and carriers.

**P. D. WALSH, General Traffic Manager**

**THE CELOTEX CORPORATION, Chicago:**

The railroads have made decided improvement in their service, particularly in handling carload traffic and to some extent also in handling less-than-carload traffic. They have apparently now decided to make a determined effort to regain the less-than-carload traffic and are placing solicitation forces in the field to devote their entire time to merchandise freight. In our opinion, there has always been a need for the railroads to specialize in merchandise, and where they have not already done so, it would seem proper, in view of the amount of merchandise traffic, to assign a portion of their staff to concentrate on that type of freight. The development of pick-up and delivery service has given the shipping public a further service but not dispatch, and there is still much to be gained in that direction, particularly if some method could be developed whereby two or more roads operating merchandise cars or merchandise trains between key cities would be permitted to pool their freight and provide facilities at these key cities which would be devoted exclusively to this class of traffic.

**R. H. THOMPSON, Traffic Manager**

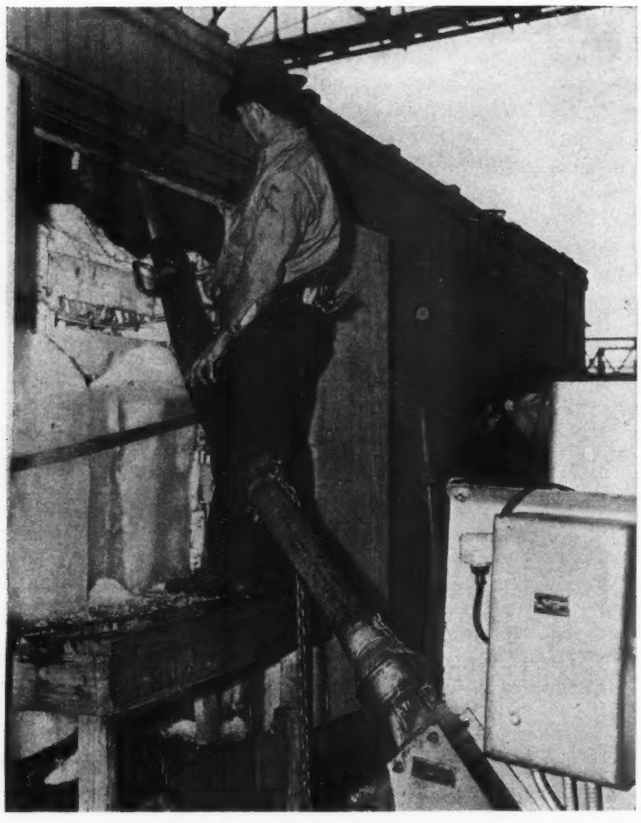
**THE MAYTAG COMPANY, Newton, Iowa:**

Through the co-operation of the Interstate Commerce Commission and the managements of the carriers, much of the old red tape has been severed and the direct participation of the carriers with industry to help solve perplexing problems is now the rule rather than the exception. The furnishing of better equipment, the improvement of freight and passenger schedules and modern business methods of accounting are all working hand in hand to produce high-class service and complaints are rapidly being eliminated. One of the most outstanding contributions that the railroads have made in recent years is the tremendous speeding up and more efficient handling of less-than-carload merchandise.

**G. H. SHAFER, General Traffic Manager**

**WEYERHAEUSER SALES COMPANY, St. Paul, Minn.:**

The progress made by the railroads in the modernization of plant and equipment, and in the improvement of service, is encouraging to every substantial shipper and to every student of transportation. There is increasing realization on the part of the public that an industrial nation such as ours is vitally interested in a strong and efficient rail transportation system. Greater care in handling, and the installation of better equipment have been supplemented by a general speeding up of deliveries. Unit costs have been reduced materially during the last two decades, and this fact has, undoubtedly, been of assistance to the carriers in their attempt to meet competition and is reflected ultimately in the pricing of their product. The latter is of particular importance to an



## *What the Shippers Think*

**"New Icing Methods Have Helped in Getting Our Perishables to Market in the Perfect Condition Demanded by Our Customers Today."**

industry such as ours, where the cost of transportation bears such a high ratio to the delivered value of the product. What has been done by the railroads in the face of most trying conditions, including increased taxes, labor demands, and partly or wholly unregulated competition, is a demonstration of the effectiveness of private enterprise. In my opinion, economies and further improvement in service can, and will be, brought about through reasonable co-ordination and voluntary consolidation of terminals and properties.

### GEORGE A. BLAIR, Traffic Manager

**WILSON & COMPANY, Chicago:**

There has been a great improvement in both freight and passenger service, and especially in passenger service, with shortened schedules, streamline trains, and better accommodations generally. Freight service has also shown great improvement in recent years, with shorter schedules, better equipment, and more careful handling; the latter being responsible for fewer loss and damage claims. While on the matter of schedules, it might not be out of place to call attention to the fact that the lines west of Chicago and the Mississippi river have done more by comparison in this respect than the Eastern and Southern lines. There is still something to be accomplished by the railroads in meeting motor truck competition, particularly on the shorter hauls. In citing the improvements made by the railroads, it might be in order to call attention to the fact that this cannot be said to the same extent of rate adjustments. The machinery which has been set up, probably due in some instances to the requirements of the Interstate Commerce Commission, still permits of delays, and is not in keeping with the improvements made by the railroads in many other directions.

## *What the Shippers Think*

**"The Improvement In the Railways Physical Plant Is Apparent In the Faster Speeds at Which Our Freight Is Moving."**

### F. A. SCHLEIFER, General Chairman

**MID-WEST SHIPPERS ADVISORY BOARD, and Traffic Manager, FRANKLIN COUNTY COAL COMPANY, Chicago:**

It would be a work of literary supererogation to recount the amazing but true technological progress and improved efficiency accomplished by the railroads with shipper and receiver support. Further improvement of railway freight service is assured by reason of the spark and energy with which the triumvirate charged with the nation's railroad transportation responsibility is performing in the accredited and inimitable American way. As one of the most ardent exponents of voluntary co-operation in free-enterprise, this Board has adopted a ten-point program as its practical medium, by the application of which the greatest utilitarian value can be extracted from the railway machine, viz.:

1. Buy early, and accomplish the following: (A) Cut down the peaks in your own business; give the railroads a chance; (B) No lost or dissatisfied customers because of poor service during the rush, resulting in profits; (C) This will cut peak demands for cars and will increase the available car supply by 15 to 25 per cent; (D) Transportation for the national defense will be assured.
2. Buy maximum units rather than minimum carlots.
3. Do not order more cars than needed.
4. Observe car service rules.
5. Load to full carrying capacity of equipment.
6. Load, unload and release cars promptly. (A) Give the other fellow a chance to use the car which has served your purpose because you may need and want the car which has just served his purpose.
7. Avoid contamination of high class cars.
8. Avoid damage to open-top equipment when loading and unloading with clam-shells.
9. Complete unloading. (A) Don't force the other fellow to clean your car and the chances are that he won't force you to clean his car. Money saved by releasing dirty cars will only be dissipated in cleaning the other fellow's cars—and may cost you much more. Every shipper, receiver and railroad is entitled to a clean deal and now is the time to keep faith. (B) Thousands of car-days can be manufactured by complete unloading, by keeping cars in service and not on the cleaning tracks.
10. Keep cars rolling so that the national defense program may be carried out without transportation priorities or hindrance to the normal requirements of commerce.

Full observation of this program will yield the maximum car supply as well as maximum efficiency and

economy in railway freight service. Shippers, receivers and railroads of the Mid-West have joined hands in an all-out drive to wipe out all transportation inefficiencies —and, to meet all transportation demands. Accordingly, it is the patriotic duty of every executive and employee of every shipper, receiver and railroad, large and small, to join hands with the members of the Mid-West Shippers Advisory Board in a declaration of total war on waste.

### CARL GIESSOW, Director

**TRAFFIC BUREAU, CHAMBER OF COMMERCE, St. Louis, Mo.:**

While the general public and shippers and receivers of freight in particular are conscious of the fact that rail transportation service has experienced a remarkable improvement and that in 1940 new highs were achieved in practically every operation which makes for speed, efficiency and economy, the improvement has been so gradual and steady that few realize the great strides in service which have been made during the last 15 years. The St. Louis Chamber of Commerce has been cooperating with the railroads for many years in the improvement of service from, to and through St. Louis. A check of our records reveals a graphic story of what has taken place. Service from St. Louis has improved astoundingly, and what has happened here has transpired elsewhere. The following table tells its own story. It shows date of delivery from St. Louis to representative points:

| To | Day of Delivery 1924 | 1941 |
|---|---|---|
| New York, N. Y. | 4th | 3rd |
| Pittsburgh, Pennsylvania | 3rd | 2nd |
| Cincinnati, Ohio | 2nd | 1st |
| Chicago, Illinois | 1st | 1st |
| Atlanta, Georgia | 3rd | 2nd |
| Charlotte, North Carolina | 4th | 3rd |
| Memphis, Tennessee | 2nd | 1st |
| New Orleans, Louisiana | 3rd | 2nd |
| Minneapolis, Minnesota | 3rd | 2nd |
| Kansas City, Missouri | 2nd | 1st |
| Omaha, Nebraska | 2nd | 2nd |
| Denver, Colorado | 4th | 3rd |
| Seattle, Washington | 9th | 6th |
| San Francisco, California | 9th | 5th |
| Los Angeles, California | 8th | 5th |
| Oklahoma City, Oklahoma | 3rd | 1st |
| Dallas, Texas | 3rd | 2nd |
| Houston, Texas | 4th | 2nd |

There is more to the story than the figures show. In 1924 it was not uncommon for cars to be two and even three days late. Today except where unusual conditions arise, cars are uniformly on time. Some of the carriers serving St. Louis have better than 99 per cent on-time performance records month after month. Besides being fast, present-day transportation is dependable. The beneficiaries from this are the shippers, receivers and the general public. The result has been to reduce inventories, reduce warehouse space, decrease interest charges, render better service to customers and reflect these reduced costs in the price to the consumer.

### J. W. PETERS, Traffic Manager

**DELCO-REMY DIVISION, GENERAL MOTORS CORPORATION, Anderson, Ind.:**

The railways have made their greatest progress in the handling of l. c. l. shipments. We have been receiving exceptional service for some months on merchandise freight and it is really remarkable service. For many years, the railways apparently paid little attention to this traffic, but when they really set their minds to providing service for it, they co-ordinated their facilities and made use of truck operations in so many instances that today the rail lines are actually giving us better l. c. l. service than the truck operators are on comparable movements. There remains much room for the improvement of this service between many points other than the principal terminals of the rail lines and further co-ordination of truck and rail service will bring about a continued improvement in the handling of merchandise between all points served by the rail lines.

## The Far West

### ALDON J. ANDERSON, General Chairman

**CENTRAL WESTERN SHIPPERS ADVISORY BOARD, and General Traffic Manager, UNITED STATES SMELTING & REFINING COMPANY, Salt Lake City, Utah:**

Each shippers advisory board meeting provides a setting for a considered analysis not only of the need for and the efficiency of the transportation service furnished by the railroads and other common carriers, but also serves as a medium for gaining a view of the underlying business and economic conditions of the country in general and of the advisory board territory in particular. Unbiased and unprejudiced participation in a number of these meetings has given opportunity for the expression of some compliments and some criticisms and also some constructive suggestions to carriers, which have invariably been received in good part. At the present time it is readily apparent to thinking persons that the railroads are actually planning their future months' operations from three viewpoints: (1) To meet the transportation requirements of the national defense program completely; (2) To furnish non-discriminatory, cheerful and efficient service to the general shipping public; and (3) To operate the rail lines on a reasonable freight rate structure which will also yield a reasonable rate of return to the stockholders of the railroads and provide for proper maintenance and development.

During the World War No. 1, serious congestions at several important terminal points resulted in tying up many units of railroad equipment under load. The effect of such occurrences "cramps the style" of the carriers in handling freight offered at other points. Reference to that situation calls to mind the time-worn axiom that "Hindsight is better than foresight." Undoubtedly the blame for this congestion properly rests with the individuals and Government officials who were responsible for ordering material shipped before the blueprints of construction jobs were even finished, and other like inefficiencies. There is much evidence that in the present emergency the carriers have obtained the necessary cooperation from all agencies to insure the transportation program's going forward, along with, or even in advance of, the constantly growing service demand.

The one very important benefit which the publicizing of the transportation question at this time should bring about is that shippers and receivers of carload freight, both private and government, should arrange for the unloading at destination of all cars before these cars are loaded. This, together with heavy loading and promptness in billing and unloading, will reduce the difficulty confronting the carriers in providing cars and keeping terminals clear. Shipper and carrier co-operation, therefore, is logical and possible of accomplishment, which suggests the importance of the railroads' themselves double-checking to see that when the shipper has done his part, the carrier moves the loads promptly and also promptly removes empties from unloading points where they are not required, to other points where equipment is needed.

### R. F. WALKER, Traffic Manager

**SPRECKELS SUGAR COMPANY, San Francisco:**

We have been very gratified to notice the general improvement in railway service. The present very alert and progressive attitude of the railroads is most encouraging and will exert a distinctly beneficial effect upon the entire railroad industry. We are dependent upon the

railroads for the transportation of our supplies and raw materials, as well as our finished product, and no other form of transportation can take their place. Any measure that will increase the soundness and prosperity of the railroads is of great importance to us.

### K. C. BATCHELDER, Traffic Manager

**WEST COAST LUMBERMEN'S ASSOCIATION, Seattle, Wash.:**

Improved service has brought the West Coast lumber industry much closer to its distributing area. The reduction in the time of delivery has been from 30 to 10 or 12 days. As a result, retail lumber dealers have been benefited through elimination of the necessity for carrying large stocks of lumber to protect peak loads, with less need of quantity purchasing by the distributor, who can now depend on prompt deliveries by rail freight and can get a mixed car with a wide variety of items included in time to meet almost any need.

### WALTER S. JOHNSON, General Chairman

**PACIFIC COAST TRANSPORTATION ADVISORY BOARD, and President, TARTER, WEBSTER & JOHNSON, INC., San Francisco, Calif.:**

The regional shippers advisory boards, working in conjunction with railroad officers, have resulted in great benefit to both shippers and railroads; they afford as fine an example as can be imagined of what can be accomplished when complete co-operation comes into play. Shippers have come to realize that in order to obtain the best possible service from the railroads they must make an active effort to do those things which will eliminate loss and damage, expedite rail movement and reduce rail costs generally. Wherever shippers have, either of their own volition or prompted by railroad officers, made an effort to accomplish these purposes, they have found the railroads working in full co-operation to accomplish the desired results and, in consequence, we have seen loss and damage reduced tremendously. We have also seen the schedules in all parts of the nation improved to such an extent that in the last 20 years the time of deliveries has been cut practically in half and, because of this close co-operation, sufficient savings have been accomplished by the railroads to avoid the necessity for increasing freight rates, even in the face of many increased costs. Above all, we can now expect that because of this co-operation, even in the emergency of War itself, the railroads will be able to do an almost perfect job of transportation to take care of the added burden of war preparation, plus the stimulated demand of the ordinary freight movement of peacetime.

Nothing short of genuine praise can be given those men in industry who have given unstintingly of their time to bring about this splendid co-operation which has been so helpful to industry generally, as well as to the consuming public at large. No greater compliment could be paid the transportation advisory boards than that it has been found unnecessary during these days of preparation for national defense to create any special federal board to take care of the added transportation problems of the nation at this time. The splendid co-operation already built up between the railroads and the shippers is adequate to handle effectively the entire nation's transportation problems, arising out of the present emergency and this branch of our nation's defense will not be found wanting by any plans of our military organization or industrial demands.

### R. C. NEILL, Traffic Manager

**CALIFORNIA FRUIT GROWERS EXCHANGE, Los Angeles:**

Shippers of perishable commodities on the Pacific Coast are watching with interest the studies and tests of improvements in refrigerator equipment being made by the car lines serving the West Coast. Included in these improvements are several types of fans installed in the cars to accelerate circulation; overhead bunkers to give additional loading space and to provide more efficient refrigeration and better circulation; L-type ice bunkers to combine the features of the overhead tanks with half tank refrigeration; cars with retractable bulkheads or load dividers which may be fixed at any position in the car, a valuable device to hold the loads in place in cars stopped in transit for partial unloading; cars constructed with four sets of doors and with insulated fixed bulkheads dividing the car into two separate compartments (the ice tanks in these cars are located in the roof of the car to provide more loading space and more efficient cooling); cars with collapsible bunkers to give increased loading space and which are especially adapted to commodities shipped without ice or with ice on the top of the load only.

Cars in which all of these changes from the conventional type of refrigerator car have been made are presently being tested in service. It is expected that out of these studies new and improved refrigerator cars will be developed. Economies in transportation resulting from better refrigeration and increased loading will, it is expected, bring about a lowering of transportation charges on perishables from the Pacific Coast to the large eastern markets.

* * *

**Southern Pacific Freight Train in the Sierra Nevada Mountains, California**

# Rail Freight Ser v

Carriers are continuing to progress in efficiency and speed in spite of heavy traffic load

WHAT has happened to freight progress recently? Have the railways continued, during the last year, the remarkable improvement in their service that was recorded in the Freight Progress Issue of the *Railway Age* of a year ago (May 25, 1940)? The answer to these questions can be given without equivocation in the affirmative; for the roads have continued their already remarkable forward strides at an accelerated speed during the last twelve months and the outlook for still more efficient, speedy and dependable service is bright.

The best proof of this is that 1940 was a record year for operating performance and the first quarter of this year is showing further outstanding records. In 1940, the average active freight car moved nearly 12 miles per day farther than in 1921, while the average active freight locomotive moved more than 20 miles per day farther. Freight train speed increased 45.2 per cent, to 16.7 m. p. h. between terminals. In 1940, also, Class I railways attained a new high record in the average load per car for all commodities carried in carload lots, when an average of 37.7 tons per car was reached. This is an increase of 0.9 ton compared with the previous high record, established in 1939. This increase was equivalent to the addition of 26,000 freight cars to the available car supply. These are all-time records for efficiency.

### What It Means

And what does this mean to the shipper?

It gives him the assurance that the railways are showing a remarkable improvement in efficiency in handling his traffic. Further, in the present emergency it enables him to judge as to whether the railways may be depended upon to play the major role that is being assigned to them in national defense. One hears much of the possibility of car shortages and other failures of rail transportation, but nothing of possible failures in competing transportation agencies. Why? Because other agencies of transportation cannot be and are not being counted upon for year-round dependability, even when no emergencies exist, and the railways can.

An outstanding example of this fact has recently developed. When the companies operating ships through the Panama Canal discovered they could make more money by selling their ships for other services than by continuing to meet the inter-coastal transportation needs of the public, they calmly abandoned or curtailed their services. And the railways were expected to be ready almost overnight to take over this transcontinental business. As a matter of fact, they were ready, for the transcontinental lines are efficiently managed and forehanded.

But let us reverse the proceeding and suppose that the railways suddenly decided that they could make more money by selling much of their rolling stock to foreign governments. Who then would assume the transportation burden? The ships? Or the trucks? It doesn't take

# er vice in High Gear

From the Lonely Stretches of the West to the Busy Metropolitan Centers, the Railway Freight Service Is Fast and Dependable

much imagination to picture the chaos that would result. The statistics quoted above tell their own story of railway dependability to the industrial traffic manager with an analytical turn of mind. A more detailed statement will be found in the accompanying table.

Elsewhere in this issue are articles giving specific details as to schedule improvements, superfast freight trains, rail-highway co-ordination, the activities of the railways in near-wartime, and the improvements made in equipment, in track and in signaling. In this article, we propose to highlight the general features of what the railways have done and are now doing to improve their freight service.

### Huge Equipment Purchases

First of all, in order to move freight at high speeds, the railways must have modern, efficient rolling stock. The railways cannot afford to wait until heavy traffic is upon them before taking action. Long before the national defense movement got started, the railways anticipated the need for more and faster rolling stock, and their equipment-buying program got off to a flying start at the beginning of 1940. During that year, the railways of the United States and Canada bought 65,817 freight cars. When this is compared with the buying in 1932 and 1933 of 2,469 and 1,761 cars respectively, or even 21,129 cars bought as late as 1935, the extent of the preparation is obvious. Actually, 165,793 freight cars have been bought in the 16 months ending with April 30, 1941. And the railways have not stopped there.

Furthermore, more new freight cars are on order now than at any time in the past 16 years. On May 1, 1941, Class I railroads had 56,502 new freight cars on order. Since then, however, orders have been or will be placed in the immediate future for 16,225 additional freight cars. All of these new cars are expected to be completed and placed in service this year. Taking into consideration the 24,284 new freight cars which were placed in service in the first four months, this means that approximately 97,000 new cars will have been completed and installed in service within 1941. In addition, under the program approved by the railways in Chicago on Monday, May 12, the railroads also will provide for a *net increase* of 120,000 cars to the supply for the anticipated rise in traffic in 1942, and for a further increase in ownership of 150,000 cars in 1943. The total number of new freight cars on order on May 1, 1941, was an increase of 14,167 compared with the number on order on April 1, 1941, and an increase of 39,042 compared with May 1, 1940. New freight cars, for which orders had been placed on May 1, 1941, included 33,001 box, 20,817 coal, 1,298 refrigerator, 985 flat and 401 miscellaneous cars.

In 1940, the railways of the United States and Canada bought 697 locomotives, or more than in any year since 1929; it compares with 429 bought in 1939. In the first four months of 1941, the railways have purchased 416 locomotives, or at the rate of 1,248 a year, while, for the 16 months ending April 30, 1941, the total purchases amounted to 1,113 locomotives. In contrast, during the depth of the depression in 1932 the

**Defense Needs Have Materially Increased the Railways' Traffic**

railways of the U. S. bought only 12 locomotives and the Canadian roads none at all.

All of the railways, depending upon their individual needs and the amount of traffic in sight, are sharing in this buying program. Not only have they bought cars simply as cars, but they have also bought with reference to their shippers' specific needs and with due regard for advances in the technical and research fields as applied to rolling stock. These figures show not only that the railways bought unusually heavily in 1940 and are buying at an even more rapid pace this year, but they give further evidence of a continuing dependability of railway service in the future. These new cars and locomotives are naturally more modern and hence more efficient than those now in service and as more of them are installed, the indices of operating efficiency given at the start of this article will show still further improvement.

The efficiency of the present equipment has also shown marked improvement in the last 10 years, and particularly in the last year. The number of miles operated between shoppings of both cars and locomotives on several individual railways have shown an astonishing increase, as much as 350 per cent in some cases. This supplies added assurance to the shipper that the cars loaded with his freight will keep right on rolling in 1941, without being delayed on the line because of engine failures or being set out on the "rip" tracks in terminals for repairs under load or possible transfer of the lading, with all the delays that such operations entail.

Having made these large expenditures for facilities

## Freight Train Performance

Railways of Class I in the United States

| Year | Freight train speed (M. P. H. between terminals) | Freight cars per train (excluding caboose) | Net tons per train | Gross ton-miles (Excl. loco. and tender) per freight train-hour | Net ton-miles per freight train-hour | Gross ton-miles (Incl. loco. and tender) per ton of fuel | Freight car-miles per car day—active cars[a] | Freight loco.-miles per loco. day—active locos.[b] | Gross ton-miles (Incl. loco. and tender) per active locomotive day |
|---|---|---|---|---|---|---|---|---|---|
| 1921 | 11.5 | 37.4 | 651 | 16,555 | 7,560 | 12,367 | 30.8 | 78.2 | 100,003 |
| 1922 | 11.1 | 37.5 | 676 | 16,188 | 7,479 | 12,273 | 29.6 | 79.3 | 103,195 |
| 1923 | 10.9 | 39.0 | 713 | 16,764 | 7,770 | 12,452 | 31.2 | 81.6 | 111,020 |
| 1924 | 11.5 | 40.7 | 715 | 18,257 | 8,222 | 13,402 | 32.7 | 79.2 | 112,210 |
| 1925 | 11.8 | 42.8 | 744 | 19,685 | 8,773 | 14,292 | 34.6 | 82.3 | 122,216 |
| 1926 | 11.9 | 44.2 | 772 | 20,692 | 9,201 | 14,649 | 35.9 | 85.0 | 130,847 |
| 1927 | 12.3 | 45.5 | 777 | 21,940 | 9,583 | 15,321 | 36.6 | 85.5 | 134,861 |
| 1928 | 12.9 | 47.1 | 792 | 23,600 | 10,183 | 15,787 | 38.3 | 88.0 | 142,836 |
| 1929 | 13.2 | 47.6 | 804 | 24,539 | 10,580 | 16,007 | 38.7 | 91.2 | 150,194 |
| 1930 | 13.8 | 47.9 | 784 | 25,837 | 10,836 | 16,497 | 38.6 | 89.6 | 149,081 |
| 1931 | 14.8 | 46.9 | 733 | 26,721 | 10,825 | 16,740 | 37.3 | 88.2 | 143,550 |
| 1932 | 15.5 | 43.8 | 663 | 26,046 | 10,265 | 16,245 | 34.0 | 86.2 | 131,695 |
| 1933 | 15.7 | 44.8 | 699 | 27,344 | 10,974 | 16,479 | 34.6 | 89.8 | 141,109 |
| 1934 | 15.9 | 45.3 | 706 | 28,040 | 11,225 | 16,451 | 36.2 | 94.3 | 149,692 |
| 1935 | 16.0 | 45.4 | 734 | 28,674 | 11,718 | 16,639 | 36.6 | 93.5 | 150,167 |
| 1936 | 15.8 | 45.8 | 774 | 29,200 | 12,146 | 16,748 | 39.7 | 96.7 | 158,741 |
| 1937 | 16.1 | 46.6 | 796 | 30,349 | 12,695 | 17,133 | 40.6 | 96.2 | 161,408 |
| 1938 | 16.6 | 47.1 | 759 | 31,141 | 12,473 | 17,462 | 39.0 | 91.3 | 154,001 |
| 1939 | 16.7 | 48.5 | 813 | 32,808 | 13,450 | 17,774 | 41.3 | 95.8 | 167,870 |
| 1940 | 16.7 | 49.7 | 849 | 33,808 | 14,027 | 17,839 | 42.6 | 98.9 | 177,869 |

[a] Serviceable cars minus surplus cars.
[b] Serviceable locomotives minus stored locomotives. Locomotive-miles do not include train switching-miles, which average about 8 miles per active locomotive day.
Source: Interstate Commerce Commission.

and rolling stock, what is being done to cash in on the improvements by operating more efficiently and giving better service? The following pages, divided into major sub-heads as to classes of traffic, tell the story.

### Speeding the Small Shipment

L. c. l. traffic has long been one of the most vexing problems with which the railways had to contend. This class of shipments is most susceptible to competition and it has been in the handling of merchandise that the trucks have made the deepest inroads into railway revenues. So long as a huge volume of l. c. l. traffic was moving by rail and industry was accustomed to wait for its shipments until the railways got them to destination, merchandise handling was a most profitable operation. When, however, the volume decreased sharply, l. c. l. traffic became an expensive item, so much so that some defeatists even went so far as to contend that the railways would be better off without it.

About this time certain other railways conceived the idea that they should provide a complete transportation service, not tied to rails and freight cars, but historically and actually able to give the shipper what he wants. As a result of this thinking, co-ordinated rail-highway service came into being and the problem of securing and handling l. c. l. traffic took on an entirely different aspect. Speed being as necessary to merchandise handling as the flexibility of rail-truck movement, certain of the more progressive railways began the operation of super-fast trains on schedules with which highway transportation cannot compete. The details of this development are given in other articles of this issue, but it may be said here that the last 12 months have seen large increases in the volume of merchandise handled by the railways, and equally remarkable strides in improving its handling, by revised operating methods as well as the improvement in platform trucks for more efficient freighthouse handling.

One of the important activities begun during the year was the appointment of a special l. c. l. committee by the Atlantic States Shippers Advisory Board, to study l. c. l. service in co-operation with the railways. This committee investigated the simplification of routings, pick-up-and-delivery service, rail-truck co-ordination and other steps in the prompt, satisfactory and efficient movement of merchandise. Its activities and the benefit of its experience have been passed on to the other advisory boards, looking toward the formation of similar committees in all territories.

One of the outstanding steps that is being taken by the railways in avoiding delays to l. c. l. traffic is the mechanization of the handling of billing, so that shipments will no longer be delayed awaiting the completion of necessary record work. The railways have been particularly active in this respect during the last year, making many installations of Teletype, Recordak, Ditto and other machines. Much time has also been saved by the elimination of the constant copying and recopying of the necessary papers accompanying a shipment. The manifold waybill and the combination bill-of-lading and waybill represent steps taken in this direction. The latter form is now in experimental use by several railways and its use has been approved by the A. A. R. and the National Industrial Traffic League. The tendency is definitely toward the unification of billing offices at central points, where the work can be supervised and expedited and where the chances of error are less than if the billing is done at some outlying point where the clerk may be relatively inexperienced.

The institution of the "Perfect Shipping Month," while covering all traffic, is of specific and paramount importance to l. c. l. business. Under the leadership of W. J. Williamson, general traffic manager of Sears, Roebuck and Company, who served as general chairman of the national management committee last month, shippers and railroaders collaborated to make the 1941 perfect shipping month a success. The proper protection of freight by correcting packaging, by steel strapping, by proper stowing and the elimination of rough handling, is becoming more widely understood each year. The present industrial set-up requires prompt movement of l. c. l. traffic more than ever before, and the fast schedules that have been set up for competitive reasons will prove equally valuable in handling defense traffic.

### Setting the Nation's Table

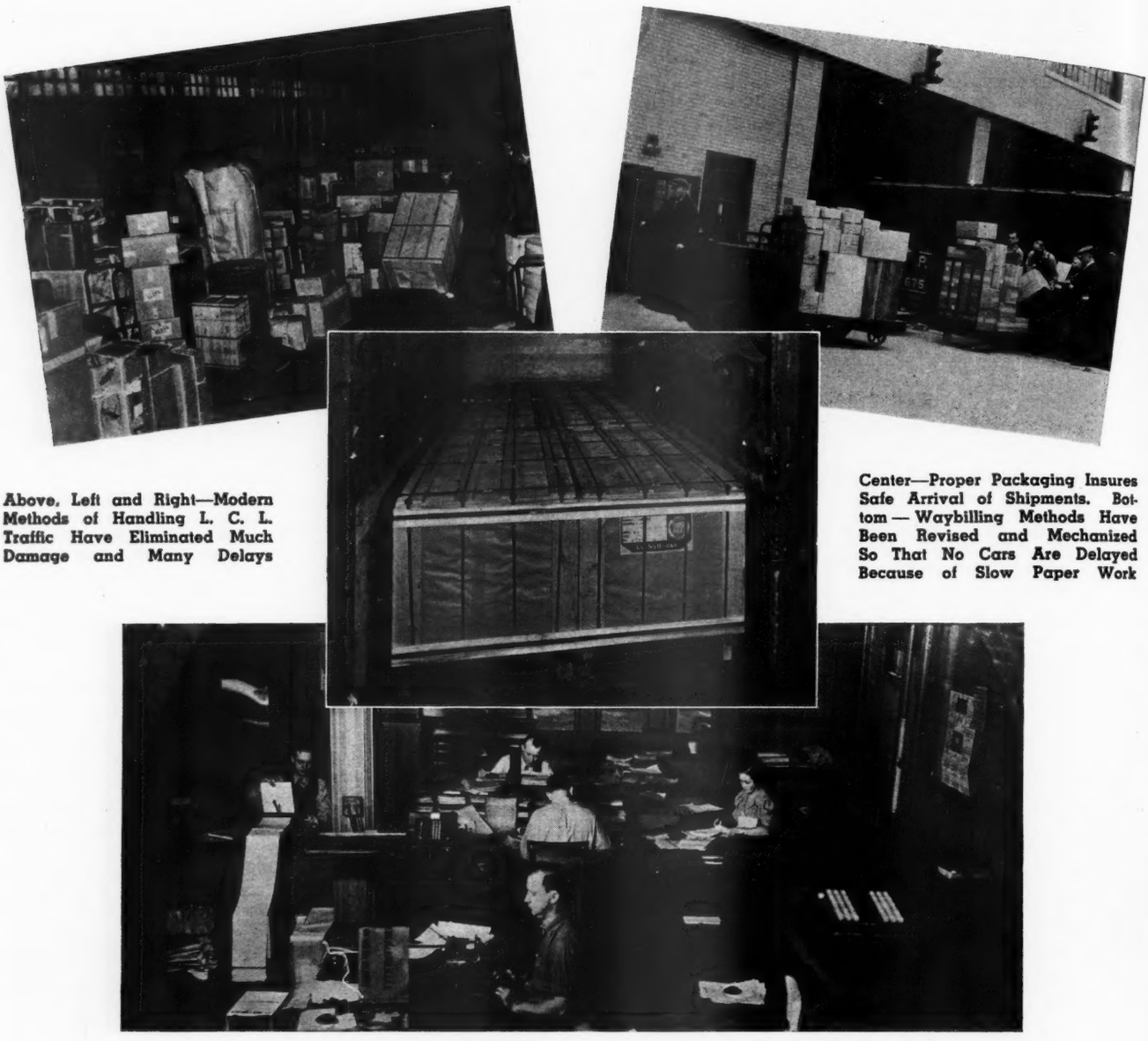
"—And the desert shall blossom like a rose."

This biblical prediction has literally been made to come true by the railways in hundreds of places. Barren desert stretches all over the West have been transformed into busy agricultural districts, producing fruits and vegetables that are being shipped to all parts of the country and the development of such areas would have been quite impossible without the transportation service afforded by the railways. In addition, the railways have fostered scientific farming and are operating soil and water trains, phosphate fertilizer trains, soya bean trains, etc., for the education of farmers.

Agricultural products, including animal and forest products, are of sufficient importance from a revenue standpoint to justify considerable thought and study. Uniformly, schedules of perishable trains have been reduced, new forms of icing have been introduced to save money for the shippers, and extremely liberal diversion privileges are being granted to aid in marketing the product.

Truck transportation, and particularly that of "gypsy"

**The Chicago & North Western's Track List Shows the Location of Hundreds of Cars of Potatoes in its Chicago Produce Yard**



**Above, Left and Right—Modern Methods of Handling L. C. L. Traffic Have Eliminated Much Damage and Many Delays**

**Center—Proper Packaging Insures Safe Arrival of Shipments. Bottom — Waybilling Methods Have Been Revised and Mechanized So That No Cars Are Delayed Because of Slow Paper Work**

truckers, has cut wide swaths into the railways' perishable business in recent years. Even so, when they get right down to brass tacks, the farmers know that rail transportation is their only salvation. Only recently the American Farm Bureau Federation adopted the following statement of policy at its annual meeting:

"We recognize that the American railroads constitute an essential transportation agency and believe that their continued operation under private ownership will best assure the highest degree of efficient and improved service to the public. Rules and regulations causing enforced costs entering railroad operations and transportation rates of railroads should be adjusted to the extent necessary under efficient operation to permit improvement of services and a reasonable return on prudent investment."

Speed has become particularly important in the transportation of fruits and vegetables. These most perishable of all commodities travel an average of 1,400 miles enroute from producer to consumer. New York City, for example, receives about 40,000 carloads (one-fifth of its total supply) from California annually. The remarkable on-time performance, even with days cut from the schedule, that has been made by the transcontinental and Florida railways, has had its effect in retaining much of this traffic on the rails.

Apart from its effect on the railways, trucking of fruits and vegetables is resulting in disorderly marketing and uncertain prices at the consuming centers. A case in point is the movement of North Carolina strawberries. These have been moving largely by truck of late years, but, before the last shipping season began, the leading growers and shippers went to the railways for help in counteracting the chaotic price conditions that had existed in preceding seasons and that were getting worse. As a result, the railways ran special solid strawberry trains, but even with the support of the leading shippers, the first week's movement was light. By the beginning of the second week, however, the better market results from the first rail shipments were apparent, and the rail loadings on Monday of the second week were higher than the entire first week's loadings combined. From then on, rail shipments were heavy. Leading growers estimated that they got a minimum of 50 cents more per crate for their berries and the 1941 crop is being handled similarly by rail.

The railways have been an important factor in moving livestock to market from the very early days. In the

past year, they have played a major part in restocking Western range areas that were depleted or even abandoned during the long series of drouth years only recently ended. Furthermore, according to the National Livestock Loss Prevention Board, many times more cattle are killed and maimed when shipped by truck than by rail. Nonetheless, there has been a steady diversion of all classes of livestock from rails to trucks. This has resulted in the practical disappearance of the once numerous stock buyers in market towns, whose primary function was the purchase of stock from the individual farmers and its consolidation into carloads at rail stock pens for shipment to market.

Several of the railways are operating stock trains over long distances at speeds comparable with or faster than those of any of their other trains, but this does not solve the problem of convenient pick-up where shorter hauls are involved. When trucks were handling only about 40 per cent of the total livestock traffic, several railways adopted stock pick-up plans, employing highway trucks for concentration at certain stations for rail haul, in some areas in carload lots, in others by individual animals if necessary under what was called "calf or carload" plan. With the advantage of fewer deaths and injuries and less shrinkage, besides insuring more orderly sales at the markets, this plan was recovering some traffic for the rails, until, in I. C. C. 28216, July, 1940, the Commission, using logic that is somewhat difficult to follow, denied the railways the right to pick up stock. This hamstringing of the railways in their efforts to recover traffic that seems legitimately theirs had an immediate effect and for the year 1940, highway trucks handled more than 60 per cent of the total livestock traffic.

### The Flood of Wheat

Since the use of combines in the wheat fields first resulted in a concentration of the annual grain rush some years ago, the railways have revised their methods for handling grain to meet this more highly concentrated movement without car shortages. With the demand for box cars at its present peak, the handling of this year's grain is becoming particularly important because of the large movement that is expected.

The carryover of old wheat this season is the greatest on record. Country and terminal storage space is now filled to an unusual degree and the problems of finding warehouse room for the new crop may become acute. A large portion of the wheat now in storage is under government loans, and will not be moved until just before the transportation of the new crop begins. This year's crop conditions are most favorable and there is a probability of much larger than average production. The eastern and southeastern roads now have an unusually large number of western lines box cars on their lines and the supply in the west is correspondingly low. Defense programs and the general increase in industrial activities are placing increasingly heavy demands on the western roads, most of which are also facing increased transcontinental traffic as the result of the reduction of intercoastal vessel service.

That briefly, was the situation only a short time ago but remedial steps are being taken. On April 4, transportation officers of railways throughout the country met with Car Service Division representatives in Chicago to face the situation. As a result, a quota system for the return of western box cars was devised and is now in effect. Under this arrangement, each eastern and southeastern railway is given a weekly quota, depending upon the number of western box cars on its line, of cars to be returned to western roads, beginning on April 15 and extending to June 15.

To further the plan, during this period western box cars on these railways may be used for loading only to or in the direction of the home roads. They are used preferentially for merchandise loading in the proper direction and are not to be held for loading without definite assurance of early and proper usage. As a matter of fact, if the situation shows signs of becoming acute, these cars will be forwarded home empty. Emergency short routing arrangements are in effect at Chicago and St. Louis, providing open short-route channels for out-of-route, non-connection cars, and further arrangements of this character will be established where conditions justify them.

These arrangements on the part of the railways and the Car Service Division do not, by any means, complete the plans for meeting this problem. Each railway concerned in wheat loading has worked out arrangements for moving empty cars from the junction points to the loading territory and for their proper distribution there. Focal points such as Kansas City for winter wheat, Minneapolis for spring wheat, as well as other centers, are geared for prompt unloading. Road and terminal handling have been speeded up to insure more prompt turnarounds. Train and engine men and mechanical forces, as well as locomotives, are being borrowed from other divisions, grain doors are stocked and ready for use, and other similar measures are being taken.

The activities of the railways are only part of the story. Through the medium of the regional advisory boards, all-important shipper co-operation is now secured, and further plans for co-operation will be worked out at an important meeting of the Trans-Missouri-Kansas board in Wichita on June 6. The officers of the storage elevators are also co-operating. Farm bureaus, granges,

**Proper Loading and Fast Trains Insure Safe and Speedy Arrival of Raw Material in Carload Lots**

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Both can thank Truck Taxes for America's magnificent highways!
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THE CLEVELAND, COLUMBUS & CINCINNATI HIGHWAY, Inc.
Showing How the Competitors of the Railroads Recognize the Value of Advertising as a Means of Taking Traffic Away from the Rails!

**Taking Advantage of the Lethargy of Some Railways in Advertising Their Freight Service, Their Highway Competitors are Conducting Vigorous Campaigns in National Journals and Trade Papers Such as the Saturday Evening Post, Time, Business Week, Etc.**

**Yards Are No Longer Places In Which To Store Cars, But Are Effective Facilities In Prompt Classification and Making Up Trains To Avoid Terminal Delays**

etc., are doing their bit to promote good car handling and the state grain inspection departments have speeded up their work materially. Moving wheat is a co-operative effort on the part of the railways and all these other agencies. The prospects are that this particular transportation job will be more difficult of accomplishment this year perhaps than ever before. Nonetheless, it is a job that must be done and with railway and shipper co-operation, it will be done.

### "Hot-Shot" Coal and Ore

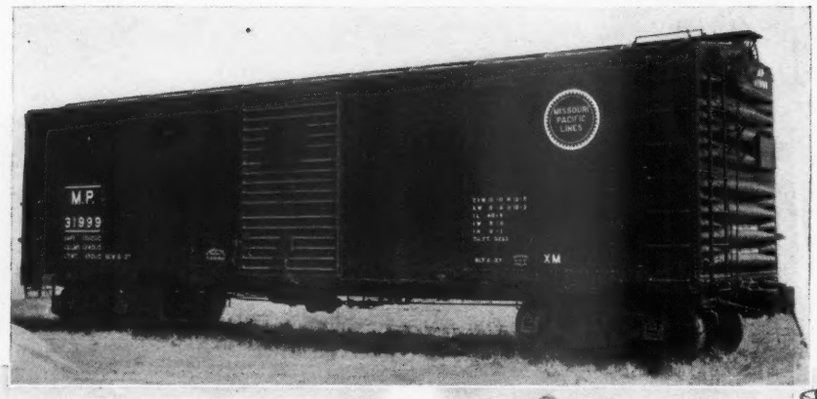
To the old-time railroader, "hot-shot coal and ore" would have seemed a complete contradiction in terms, but it is no longer true in modern railroading. On some railways, fast overnight service is given on coal from the mines to tidewater. There are few commodities more important or more essential to the entire scheme of national defense than coal and ore. Fortunately for the nation, the leading coal and ore handling roads recognized the basic change in the industry some years ago and, even during the depression, spent millions in improving their roadway, their rolling stock and their coal and ore-handling facilities at docks to transfer coal and ore from the slow "drag" class of traffic into the "hot shot" class.

This foresight on their part and their courage in spending huge sums when money was hard to get was prompted, of course, by their desire to serve the mining industry and the users of these products of mines, without thought of the present emergency. Nonetheless, the nation is extraordinarily fortunate that these steps were taken and these huge expenditures made, for, if coal and ore were still on a "drag" basis, if the railways handling them had not improved their facilities for really high-speed operations, many of the nation's essential industries would now be slowed down seriously.

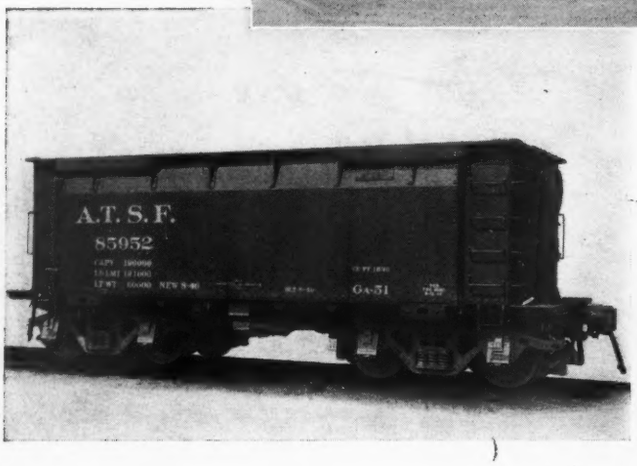
The handling of ore is still too big a job for the trucks to tackle, but they are competing for coal traffic, and with the usual result of harming the railways and the industry as well, by creating disturbed, chaotic marketing conditions. An interesting example has been found in the Birmingham district. The Alabama coal mines are situated quite near the Birmingham consuming area and, only a few years ago, trucks were hauling four times as much coal into Birmingham as the railways. They were "wildcat" trucks, operating from "wildcat" mines, and the marketing condition that they created was "wildcat" indeed. In a successful effort to correct the condition, one of the largest operators in the district enlisted railway co-operation, and set out to convince the truckers that they could get better coal, with shorter hauls, at rail-served yards in Birmingham. The result is that in a year or two, the percentage of railway-transported coal into Birmingham has increased enormously and the ratio of traffic handled into the city by rail versus truck will shortly be completely reversed.

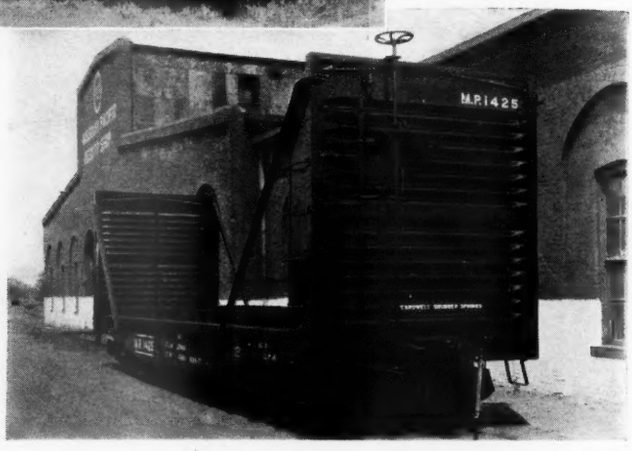
Throughout the country, the railways are constantly accelerating the pace of their operations, to the end that the all-important freight cars get over the road and through the yards more promptly. Each car day saved in moving a shipment is important now and will become increasingly more important as the weeks and months roll by, bringing the flood of grain a few weeks

The Huge Buying Program of the Railways Has Resulted in the Purchase of 165,793 New Freight Cars in the Last 16 Months




Many Special Purpose Cars Have Been Bought To Aid the Shippers In The Movement of Outsize or Otherwise Difficult Commodities




hence and the normal peak in carloadings next fall, which promises to be at a higher level than for many years.

It will be more than ever important then that the shippers co-operate in keeping the freight cars not only on the move but loaded to as near capacity as possible. In other articles, suggestions are made as to how the shippers have helped and can help in the actual physical loading and unloading of cars, with stress on the attendant and important subject of ordering cars. There is another way in which industrial traffic managers can help and that is by closer study of the routing of cars.

This does not mean that the normal interchange points should be disturbed or their status changed in the shippers' minds. Unfortunately, however, the map is cluttered with interchange points that individually are rarely used. The amount of freight moving via these out-of-the-way junctions is, however, very large when summed up for the country as a whole. Such routings are a fruitful source of delay, wastage of car days, and of expense in sending switch engines out into the "sticks" where they are not normally employed. Traffic solicitors have a responsibility also in this matter and should not seek cents in extra division of the rate that may cost dollars in operating expenses.

The belt lines have kept pace with the larger systems in speeding up traffic and in eliminating the ever-present menace of terminal delays to cars. Here, too, routing is important. The larger shippers have learned the necessity for proper selection of belt or connecting lines in their routings, but many of the smaller shippers overlook this important detail and terminal delay frequently results.

### Selling the Product

Unfortunately, the improvement in railway sales methods has not kept pace with the improvement in freight service. During the year, several railways have produced excellent mailing pieces advertising freight service, and a few have been conducting commendable advertising campaigns in behalf of their freight service. The advertisements of the railways appearing elsewhere in this issue are representative of the constructive work that is being done by the more progressive roads, but, in general, there has been relatively little continuity in publicizing freight transportation on the part of the railways. Yet, their truck competitors, on the other hand, have made marked strides along these lines, as the exhibit of truck advertising accompanying this article shows, these advertisements being culled from publications crossing a single desk in less than a month.

One hears constantly from some railway officers that their customers are confined to a restricted list, (some traffic men put the number at less than 100) who are "contacted" regularly and often by traffic representatives. On the other hand, one hears constantly from shippers who complain that the railways do not tell them about their improved services. Hundreds of letters received from industrial traffic managers following the publication of the 1940 Freight Progress Number showed their astonishment at the number of improvements in freight service that had not been brought to their attention by the railways. The suggestion has been made to those railway men claiming to have only restricted lists of customers that lack of sales and advertising effort may be responsible for the lists being so restricted. Recommended reading for every freight traffic officer, and railway executives as well, is an address made by A. D. Phillips of the United States Rubber Company, and reprinted in the *Railway Age* of November 9, 1940, under the heading "Good Fellow Solicitation Is Outmoded." The lack of real and constructive sales effort on the part of the railways is well described there, and by one of their large and important customers, and this customer presents the opinions of a far larger majority of industrial traffic managers than many railway traffic officers realize.

# Rates for an Era of Competition

Carriers, recognizing new conditions, aim at price structure to preserve essential services and eliminate wasteful rivalry

GREAT progress—not all of it yet in tangible form—has been made by the railroads during the past year in modernizing their rate structure to meet present-day needs of commerce, and to give recognition to the fact that transportation is now a competitive business. The problem is an enormously complex one—as everyone connected in any way with the movement of freight full well knows. Its solution has not been made any easier by the frequent conflicts in interest involved—not only among different railroads, but between dissimilar theories of rate-making. By and large, the dominant common carrier trucking interests (with New England a partial exception) have not shown a disposition to concentrate their efforts on the traffic which they are economically best fitted to handle—but have held out for "umbrella" rates at a level far above costs, either by rail or by highway; enabling them to pick-and-choose lucrative traffic, loaded in both directions, while leaving the poorly-paying and the empty movement to the railroads.

### Holding an "Umbrella" Over the Inefficient

Not always, but too often, the Interstate Commerce Commission has sided with the truckers in requiring the maintenance of "umbrella" rates—thereby retaining in service an overexpanded transportation plant, largely at the shippers' expense. And even the newly-revised Supreme Court, oblivious to precedent, has given some hope to those who seek to "cartellize" transportation at a high rate level.

The problem of revising freight rates to meet modern conditions of competition in transportation cannot be solved by the railroads alone. Their hands are too thoroughly tied by law and by regulatory authority to enable them to act as they see fit either in their own or the public interest. And the situation affects the national welfare too closely for it to be wise to permit any one particular interest—be it shipper, carrier, or political—to dictate what the final outcome should be. The one goal to aim at is the protection of the national interest in reliable, efficient and economical transportation—and the private and political interests ought to accommodate themselves to that objective, rather than expecting the national interest to play second fiddle to their immediate and particular desires. Unless the national interest is kept ever in mind this problem is not going to be solved—because no problem is solved until it is solved right.

### Just What Is the Job That Needs Doing?

Before discussing specific steps that have been taken to modernize the freight rate structure—it will perhaps be well to take a rapid glance at the nature of the problem itself; and the circumstances which a conscientious revision of the structure should take into account. The first and foremost fact which must be faced is that transportation, to a large degree, has lost its natural monopoly status and become naturally highly competitive. It doesn't do any good to complain (as might be done with great persuasiveness) that the change has been an unfavorable one; and that it will do more harm than good. The *fact* is that the change has come and it must be dealt with realistically.

### Shift from "Value" to "Cost"

Now—the big adjustment which has to be made in rate-making when transportation changes from monopoly to competition is a shift from basing rates predominantly on the *value* of the freight to a *cost of handling* basis. This change does not imply a complete departure from considerations of value, nor a slavish dependence upon costs—it is merely a shift in emphasis. No moral principles are at stake in this change-over. There is nothing necessarily evil about a monopoly, where it arises from *natural* economic causes (which was true when the railroads were the only agency of long-distance transportation). Neither is there anything necessarily virtuous about competition.

Questions of right and wrong enter into the rate-making situation only when, under conditions of *natural* monopoly, coercion is used to try to force unnatural competition; or, contrariwise, when competition is the natural state of affairs, coercion is applied in the effort to establish monopoly conditions artificially. The use of coercion to circumvent *natural* conditions in either case, is bad—because its only result, being unnatural, is to produce *uneconomic* results; in other words, to make people pay more for transportation than there is any need for them to pay.

The political authorities in the era of *natural* monopoly in transportation (that is, before the arrival of over-the-road trucking), quite likely, erred at the public expense in attempting to enforce an artificial degree of competition. Now, some of them at least seem disposed to continue going against nature—this time seeking to re-establish monopoly conditions when competition is the inevitable order of the day.

### Only One Way to Establish Honest Monopoly

The only way to re-establish *effective* monopoly conditions in transportation now would be to enact a "commodities clause" for all shippers—forbidding anybody except duly certificated common carriers to engage in transportation. If the political authorities are not prepared to take that far-reaching step, then the only practicable alternative is for them to permit the various agencies engaged in common carriage to practice reasonable competition, not only with each other, but with contract and private carriers as well. Unless this permission is given—and if common carriers are encouraged by "umbrella" rate levels to invade each other's economic spheres—then contract and private transportation will inevitably gain at the expense of common carriers; as, indeed, it has been doing. And where will our *dependable, national* system of transportation be when a large ratio of the traffic is no longer available to common carriers because wasteful duplication and other uneconomic conditions have put common carrier services on an uneconomic price level?

Approaching this problem from the standpoint of the national interest, it is evident that it has two aspects:

(1) The division of traffic among competing agencies —highways, waterways, pipe lines, railways—on a basis of their comparative economy.

(2) The protection—even where necessary, with some violation of (1)—of such transportation facilities as are essential to a *dependable national system.*

### Rates to Direct Traffic Flow Economically

There is one thing—and perhaps only one thing—upon which there seems to be unanimous agreement among all transportation people, and that is that each agency has its "proper place." The dispute arises over what that "proper place" may be. There seem to be some who feel that the "proper place" of agencies other than their own is to take the traffic they themselves find unprofitable. Surely, though, there can be no question about what the public interest requires: In a general way that the railroads should have the long-haul, large-volume tonnage (sharing some of it with water lines); that the trucks should get the short hauls and the smaller quantities; and that the pipe lines should have the movement of petroleum products where the railroads cannot economically make multiple-car rates at lower cost. Since traffic moves—not according to abstract "costs"—but in response to concrete rates, it follows that competitive rates must, in a general way, reflect the comparative cost advantages of each agency in order to attract to it the traffic which it can perform at the least expenditure of labor and capital. Only when traffic is divided on this basis can the national income be maximized; and total costs of transportation to the public be kept at a minimum.

As a practical matter, there is only a part of total traffic which is competitive, even under modern conditions. Each agency enjoys some traffic which no other agency can touch. That is, in the movement of some traffic a natural monopoly still exists. On this traffic, it is not only possible, but probably desirable also, that monopoly rate-making (i. e., with emphasis on value) should continue. Monopoly rate-making, as all students of rate theory recognize—if properly regulated and not exercised solely in the interest of the monopolist—is publicly advantageous. That is, it permits handling some traffic at very low rates which otherwise would not move at all—and by doing so does not burden other commodities, but moves them at lower cost than would be possible if they alone had to carry all overhead costs.

It is, then, only on the "overlapping" traffic for which it is possible for two or more agencies of transportation to compete with each other, that a revision in rate-making principles and practices is needed.

### Economy *Plus* a National Transportation System

But the establishing of cost-relative rates on competing traffic is not the only responsibility which modern conditions are forcing on the attention of present-day rate-makers. Another duty which they cannot escape is that of the preservation of all integral parts of a *national system* of transportation. This, of course, does not mean at all the preservation of every mile of railroad in the country, or every truck or barge line. When the railroads had a transportation monopoly and there was a good deal of "fat" in the freight rate structure, it was possible and just to require the carriers also to accept a fair portion of "lean." Under competitive conditions, it is neither just nor practicable to require a carrier of any kind to continue in "lean" situations except to the extent that the regulatory authorities are willing to make concessions to it in the division of traffic with its less-essential competitors which will compensate for the slim pickings it is asked to content itself with here and there, as a national service. This observation is based on economic principles—not ethics alone. That is, it is a question of *can* as well as *ought.* If there is not enough traffic in a given area to support two agencies of transportation—and one of the rivals will handle all of the traffic and the other only 50 per cent or less, then it is just economic common sense to allow the all-traffic agency to adopt any rate policy necessary to enable it to stay in business.

The duty of the rate-makers (carriers, shippers and regulatory authorities) is, then, first, to preserve an economical and dependable national system of transportation; and, second, to divide traffic among the rival agencies in accordance with their comparative economy. The first objective is, primarily, the responsibility of the regulatory authorities—because the rival agencies and shippers may have erroneous notions as to the indispensability of their own services; and such conflicts can be satisfactorily resolved only by those whose responsibility it is to represent the public interest as a whole.

### What Southern Roads Have Done

Probably the most important concrete act of the railroads during the past year in recasting their rates to meet modern competitive conditions was the action of the Southern roads in reducing 3,519 of their classification ratings (out of a total of 9,200 l. c. l. and any-quantity ratings). These changes, in a general way, reduced to third class all articles which bore rates higher than third class "where the density and dimensions were such as to make the traffic attractive and profitable." Such ratings, in excess of first class, heretofore reflected "value almost to the exclusion of other transportation characteristics."

The circumstances which led up to these reduced ratings were summarized by J. G. Kerr, chairman of the Southern Freight Association, in a submission to the I. C. C. which reflects, as well as it could be stated, the attitude of the modern railroad traffic man to the present-day rate problem. He wrote:

### Exhaustive Analysis by Practical Traffic Men

"In recent years it has repeatedly been asserted by shippers and receivers of freight, and others, that existing rail rates on merchandise traffic do not conform to modern trends of transportation. Because of such assertions, traffic executives of the railroads throughout the country appointed a committee to make an exhaustive study to find out what, if anything, is wrong with the present less-than-carload rail rates and what, if anything, could be done to make the less-than-carload rail rate structure meet the present-day conditions and necessities.

"This committee, generally known as the Merchandise Committee, visited twelve cities in the various rate jurisdictions from coast to coast, and interviewed hundreds of shippers, and also officials of chambers of commerce, boards of trade, and similar organizations. In addition, the committee visited freight warehouses to examine inbound and outbound less-than-carload freight; reviewed inbound and outbound billing; and interviewed receiving and forwarding clerks, local freight agents, and freight solicitors.

"The committee received innumerable criticisms and suggestions. It developed that the principal complaint

was that because of the horizontal increases in rates, coupled with reductions in carload ratings, and the establishment of carload commodity rates, the spread between the carload rate and the less-than-carload rate had been so widened as to bring about a tendency to decentralize industry, thereby circumscribing the area of distribution, and causing shippers to employ their own trucks to an ever increasing extent. It was pointed out to the committee that today there are numerous instances in the Classification where commodities are rated as high as first class, l. c. l., with carload ratings ranging from 6th to 10th class subject to minima ranging from 30,000 lb. to 40,000 lb.

### More "Prominence" to Weight Density

"This A. A. R. Merchandise Committee was convinced that the Classification ratings in numerous instances should be revised in order to bring about a better relationship between carload and less-than-carload ratings, to remove inconsistencies that have developed over a long period of years, to provide the same ratings on articles in different packages in those instances where the authorized packages are satisfactory, to give less prominence to the element of value and greater attention to weight density, and other transportation characteristics, and to bring about a better relationship one commodity with another in those instances where the element of value only had influenced a difference in ratings.

### Following the Prescription of Dr. Eastman

"The traffic executives of the Southern lines agreed that a complete survey should be made, and appointed a committee to make a comprehensive review of the Southern Classification, item by item, and to recommend changes in the l. c. l. ratings other than those on light, bulky, hazardous, fragile and perishable articles. This investigation was made and the traffic executives of the railroads, thoroughly familiar with the movement and handling of merchandise traffic on their respective railroads, carefully reviewed and approved their recommendations. The changes proposed in the tariffs are the result of this comprehensive study and investigation."

It is known also that the Eastern railroads have for many months been working on a revision of classifications which is even more fundamental than that which has been installed by the Southern lines—and also more nearly in conformance with the recommendations made back in 1934 in the Co-ordinator's Merchandise Traffic Report. The changes under consideration in the East involve no less than 7,500 ratings. In a general way, it is understood that it is the purpose of the proposed

## *They Can't All Be Right*

**It is in the national interest that the division of traffic [between railroads and highways] should take place automatically, substantially on the *out-of-pocket cost* of working. *Wherever the traffic is sufficient,* choice of facilities should be provided, and the user should be free to choose which means of transport he prefers, or to use his own transport. . . . The ancillary user [i. e., the private carrier] must contribute to the fixed charges of transport [i. e., to the provision of the roadway he uses] on the same basis as public transport.**

*—Brig.-Gen. Sir H. Osborne Mance in "The Road and Rail Transport Problem" (Italics Supplied)*

**If the regulatory bodies insist on relating truck rates closely to those of their competitors, whose cost structure is entirely different, the results are not likely to be satisfactory and the freight rate structure of the country is not likely to progress in the constructive manner which should follow the introduction of a new means of transportation. . . . On the other hand, if the regulatory bodies base their control of rates on costs, the definition of competitive spheres should develop very effectively and the public should get the advantages of competitive rates without the disadvantages of cut-throat practices otherwise associated with that competition. . . . It seems clear that certain high class rates have driven traffic to the trucks and even fostered truck operations where they are not justified.**

*—Professor Kent T. Healy in "The Economics of Transportation"*

**The revision [of merchandise rates] should . . . provide a system of charges which, while returning to the carrier its full cost and fair profit, will make it unprofitable . . . for one carrier agency to engage in transportation which can be more economically performed by another. . . . The charges . . . should make unprofitable the handling of merchandise by highway for distances in excess of 150 miles, and the handling of merchandise by rail for distances under 75 miles.**

*—The Co-ordinator's Merchandise Traffic Report*

**The truck is not wholly or mainly competitive with the rails. It is largely complementary, and the outstanding problem of transportation statesmanship today is to fit together the two types of transportation, rail and truck, so that each will handle that traffic to which it is best adapted. . . . The railroads must of necessity continue in the center of the transportation picture because they are the only agency yet in existence which provides high speed mass transportation by land.**

*—Vice-President J. F. Deasy of the Pennsylvania, Testifying on S. 146*

**In the Northwest Petroleum Case the Interstate Commerce Commission ordered the railroads to establish rates on petroleum from the Cost to interior Washington points not lower than 28.5 cents per 100 lb. —despite the fact that a rate of 25 cents which the railroads desired to establish "would yield some margin above costs." The railroads believed a 25-cent rate was necessary in order to hold the traffic against inroads by highway and waterway carriers. In a dissenting opinion, Commissioner Aitchison said that "threatened supersession of the regular carriers by private operation is virtually invited by this report." The Supreme Court nevertheless upheld the "umbrella" rate level required by the Commission's majority decision.**

## Should Railroads Be Allowed to Make Rates To Attract or to Hold Competitive Traffic?

Are truck lines subject to criticism if they are unable to handle all the traffic offered to them under emergency conditions? They are not. Truckers are not expected to maintain a large reserve of "stand-by" plant and equipment, ready to cope instantly with unusual demands.

Are coastwise, intercoastal and other water lines considered to have "fallen down on the job" if they are unable to handle all the freight offered to them under emergency conditions? They are not. They are even deemed to be acting in an entirely normal manner if, under the allurements of greater profitability elsewhere, they abandon their regular customers to the railways—for the duration of the emergency.

It is only the railways which are expected by law and public opinion to be ready at all times and at all places to move promptly whatever loads are offered them; even by shippers who ordinarily give most of their traffic to other agencies of transportation. It is only the railroads, of all the agencies of transportation, which are expected to keep expensive "stand-by" plant forever in readiness for all possible contingencies; including that of moving the traffic of their rivals who find it temporarily more lucrative to graze in greener pastures.

Is it unreasonable to expect that shippers and regulatory authorities should recognize the primary importance of this transportation agency—which is the final reliance of the nation for the efficiency of its industrial production and hence of its military defense—when it seeks to make competitive rates which will assure it sufficient traffic to enable it to subsist in years when sellers are many and buyers are few? Does the foresighted farmer starve his milch cows or make butcher's meat of them?

change in ratings in the East to reduce the classifications which move the bulk of the traffic to three—and to make third class the maximum rating, except for light and bulky articles and those hazardous to handle. Whether and how soon these changes in the East may be made is unknown—because, it is understood, there are a number of difficulties which have been encountered which must first be surmounted. However, there seems to be no question whatever of the intention of the roads to pursue the matter to a final conclusion.

W. S. Franklin, traffic vice-president of the Pennsylvania, in testifying before the Senate Committee on Interstate Commerce last summer, said of the plan for classification changes in the East (which even then was being studied) the following:

"It provides for a general reduction on the higher rated and heavier loading of less-than-carload traffic. It removes differences in ratings based on the kind of package used. It practically ignores the element of value. As an example, commodities that have a high weight density and load heavily, and are now rated first or second class, would be reduced to third class. This involves thousands upon thousands of rates.

"The adjustment, in actual application, would, first, reduce the number of ratings very materially; second, establish a more logical relationship between commodities, thus promoting simplification; and, finally, would place the railroad rates on a sounder economic basis, which would naturally place the railroads in a better competitive position."

### Preserve Necessary Services; End Waste

The statements by Messrs. Kerr and Franklin indicate the realistic direction in which the thinking of alert and studious railroad traffic men is proceeding on the question of competitive rates. Bearing in mind that the *public interest* in this problem consists, first, in preserving the essential elements of an all-round national economic transportation system and, second, the division of traffic among the various agencies of transportation on the basis of their comparative economy—it becomes evident that the course outlined by Messrs. Kerr and Franklin is directly aimed at this objective. As a noted English authority recently wrote:

"It cannot be emphasized too often that national transport does not consist of carrying two tons of pre-selected and beautifully packed commodities in a 2-ton lorry with a certainty of a return load, but in handling all the commerce of the nation, whether this consists of 10 cwt. of empty crates or 10 tons of iron ore, between the hamlets as well as the industrial centers. The nation's transport is one and indivisible."

### "Total Cost" Theory Unsound in Fixing L. c. l. Rates

This consideration is particularly apt, because the efforts made by the railroads to reduce their rates—especially on merchandise traffic—have been opposed by their competitors on the allegation that this traffic is not compensatory to the railroads even at higher rates; and they often insist that "full costs" of railroad service (i. e., not only direct costs but with a *pro rata* allocation of overhead expenses and even interest on the investment in railroad property) be used in fixing minimum rates for this class of service. If this prescription were rigidly applied, it is evident that the railroads would soon have to retire from handling l. c. l. traffic altogether—because every time they lost traffic because of rate competition, on the "full cost theory" they would be required to raise the rates on remaining traffic still higher.

As J. G. Kerr pointed out in a statement to the I. C. C. on September 1, 1940,—the reduced rates proposed by the Southern roads were higher than those prescribed by the Commission in the South prior to the Ex Parte 123 rate advances. It is the *cost of greater production* which should be controlling in a case such as this, said Mr. Kerr. This was the theory pursued by the I. C. C. in ordering reductions in passenger fares—that is "full costs" of the service were greater than the revenues under the higher fares, but lower rates were ordered anyhow, on the hypothesis that "full costs" would be more nearly earned under lower rates than higher.

The alleged "costs" of railroad l. c. l. service (as computed by protestant truckers), Mr. Kerr said, were "not so much the cost of transporting l. c. l. freight tonnage

as the prohibitive cost of transporting unutilized car space—an avoidable burden of overhead which the traffic refuses longer to bear. The cost of any service inadequately patronized speedily and inevitably becomes prohibitive."

Actually the profitability of l. c. l. tonnage to the railroads (and, hence, its true "cost") is not to be measured by the theoretical allocation of overhead expenses—but rather by the difference between the revenue which l. c. l. brings in and the savings which could be effected if all of this traffic were diverted to other agencies of transportation. The Pennsylvania Railroad made such a study and found that, in 1939, it might have saved $18,100,000 in expenses if it could have eliminated l. c. l. traffic. But it would have lost $33,000,000 of gross revenue thereby; and hence over $15,000,000 of net railway operating income. On this basis, the road could afford to make large reductions in its l. c. l. rates, rather than lose this traffic; and any reductions would be justified, from its point of view, which would attract new traffic and increase gross revenues more than they would increase expenses.

The reductions on merchandise traffic in the South and those in contemplation by the Official territory lines have also included innumerable reductions in the rates on carload traffic the better to reflect the superior economy of rail transportation wherever it exists. Many traffic executives are of the opinion that the railroads might pursue this policy more vigorously—believing that, perhaps, more revenue has been lost by not making these reductions large enough than by making them deeper than necessary to hold the business. The railroads have been greatly impeded in these efforts by regulatory authority.

### Regulators Wobbly in Their Principles

The regulators have been inclined toward a paternalistic attitude and have vetoed many efforts of the railroads to recapture tonnage that has been lost to competing forms of transportation, on the theory there should be some arbitrary division of the traffic on a profitable basis to all forms of transportation—regardless of whether the several rival agencies could justify their existence as a public convenience or necessity in the furtherance of a sound economical system of national transportation. In addition to such decisions as the Northwest Petroleum Case, referred to elsewhere herein, there have been interminable delays by the Commission in arriving at any decision whatsoever with respect to vitally important questions. There are many notable examples of this procrastination—among them being the Naval Stores Case where the Commission took several years to make up its mind on the important competitive question there involved.

These regulatory attitudes seem to conform slightly if at all to the provision of the Transportation Act of 1940 to the effect that the rates of one carrier shall not be held to disadvantage the traffic of another carrier. **The national interest in dependable and economical transportation is not the sum total of all the selfish interests in transportation**—as some superficial "thought" seems to conclude.

If the carriers can see their way—not to less, but to greater, profit margins by reductions in rates—there would appear to be no sound reason why the benefits of such reductions should, in the public interest, be denied to the shipping public. If a showing could be made that such reduced rates might shut off to the public some necessary transportation service which they now enjoy—that would be something quite different. But the contrary is actually the case. The motor and water operators are only limited common carriers at the best; actually they are hardly such at all—in the sense that the railroads are. To a large extent they are not thriving upon superior economy or service, but by "picking and choosing" the "cream" from railroad traffic. Nor do many of their services contribute to a true national need. Except in the true field of their genuine economic superiority, they constitute an unnecessary and costly duplication of service at the expense of the national economy and the national income and are destroying the prospect for a sound economical system of national transportation. The railroads are the only all-commodity, all-community, all-year transportation agency. They have not been earning enough revenue to assure the continuance of a high quality of railroad service so the rates they propose if they promise larger margin of revenues over expenses, are in the direction of protecting necessary service to the community rather than jeopardizing it.

The readiness of the railroads to make rates which will assure their retention of traffic to which they are economically entitled—and thus provide for the maintenance of railroad service so essential both to the economic welfare of the country and its military defense—stand out in marked contrast, for instance, with the decision of the Interstate Commerce Commission in the Northwest Petroleum Case, which was upheld by the Supreme Court. In this decision the Commission required the railroads to establish "umbrella" rates—well above their costs of providing the service—thus assuring that rival agencies of transportation would be able to continue "competing" for the traffic in question.

All forms of transportation are now temporarily showing reasonably satisfactory earnings due to war conditions and the temptation will be strong to say: "We are getting along all right now; why not leave well enough alone?" However, the railroads' competitors are continuing to show much greater gains in traffic and earnings than the railroads. This fact forebodes a really disastrous situation from the railroads' standpoint at the end of the war—if conditions are not corrected in the meantime. There was never more opportune time than now for the railroads to carry through to complete fruition their efforts to place their entire rate structure on a realistic competitive basis, recognizing the actual facts which they are up against.

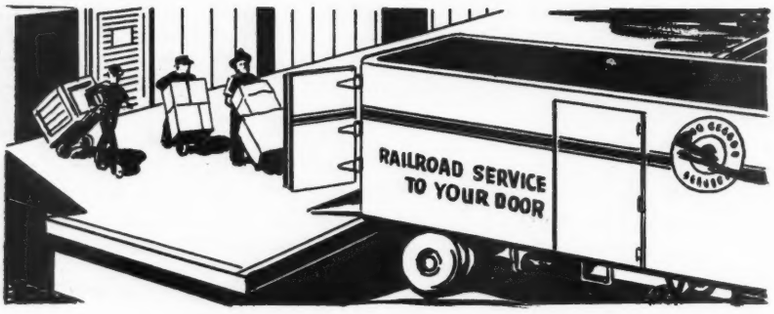
### Act Now, Or Else . . .

Present earnings are sufficient now to stand the temporary shock while the readjustment of traffic is taking place. Will post-war earnings likely be high enough to survive the shock of such an operation?

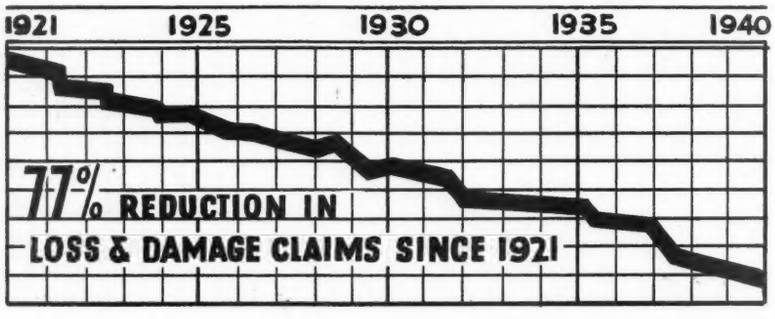
This situation is one which—given adequate understanding—ought to enlist the hearty co-operation of railway labor, shippers and the consuming public. It is in the interest of the former, because it is the one certain step to the preservation of railroad traffic and employment, once the war crisis is over. It is in the interest of shippers and consumers, because it is the only path to economical transportation—and hence lower shipping costs and a higher standard of living for the whole country. It is to be regretted that the President has taken so lightly his duty, imposed by the Transportation Act of 1940, to appoint a competent board to point the way toward bringing the various agencies of transportation into harmonious relationship in the national interest—but, instead, is planning the St. Lawrence Seaway and toll-free "superhighways" to add still further to the prevalent waste and chaos. Still—his dereliction does not excuse other interests from doing what they can to correct these conditions without him. Indeed, what he has done and failed to do makes it more imperative than ever that other interests exert themselves to the utmost to fill in the breach.

# Here's What The Shipper

**1** Mass transportation at a cost of less than one cent per ton per mile.




**2** Door to door service--pick-up and delivery of LCL shipments at regular rates,




**3** Carrier's responsibilty assures prompt settlement of claims in event of loss or damage.

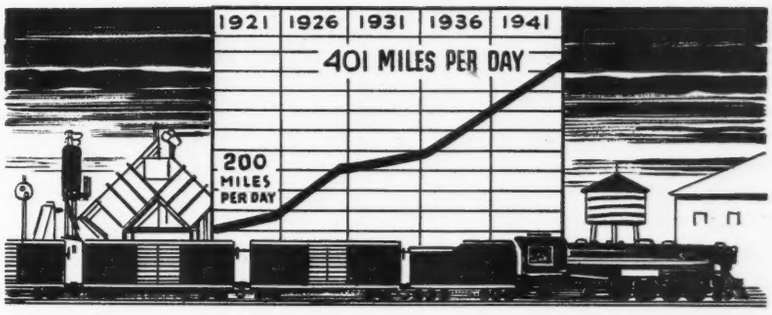
**4** Dependability--assured by the employment of experienced, carefully-trained men.

**5** Equality with other shippers--No special concessions. Tariff rates are the same for all.

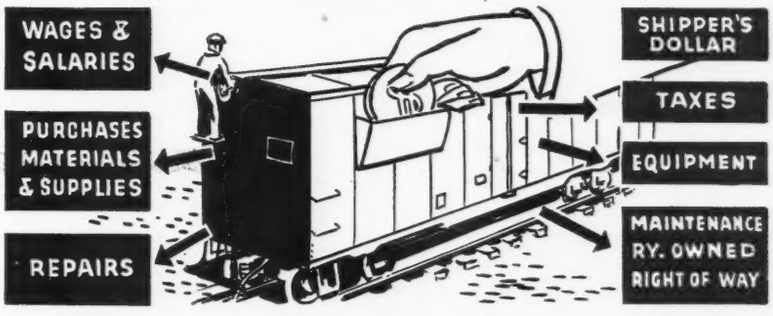
# Gets For His Dollar

**6** All-weather service--In winter as in summer, in storm and in flood, the *trains* go through.

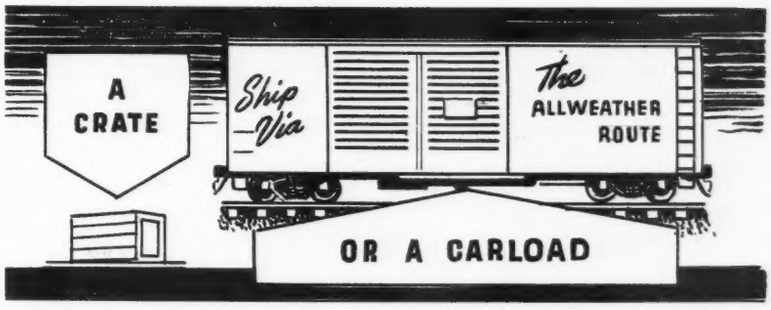
**7** Efficient transportation--Assured by efficiency in design of plant, facilities and equipment.




**8** Unsubsidized service--Railways pay *all* transportation costs. Taxpayers do not foot any part of the bill.




**9** Universal service--No picking, no choosing, the railroads haul *anything anywhere, anytime.*




**10** Support of government--Railways contribute more than $1,000,000 *everyday* in federal, state and local taxes.

# Speed—

THE freight map has shrunk again!

Despite increasing traffic, the railways have not only maintained the super-fast schedules of a large fleet of high-speed freight trains, but have also made unusual progress in still further shortening schedules in the last 12 months. Only a few years ago, a map showing the freight runs that were operated at overall speeds of 25 m.p.h. or better would have been almost virginally white. Today, such a map would show a cross-hatch of lines over the country, reaching all important terminals and thousands of the smaller cities as well.

Additional freight traffic has been a spur rather than a deterrent, for the railways spent more than $800,000,000 in enlarging and improving their plant in the 24 months ending May 1, 1941, plus many more millions in the purchase of cars and locomotives. The new rolling stock is of a type designed especially to permit freight train operation at the high speeds made necessary by the increasing demands of industry for such service even before the present defense traffic began to move. Chopping hours and, not infrequently, days from train schedules has been the result not only of increased operating efficiency but of the provision of modern locomotives and cars, of modern signaling to eliminate delays, and of the tracks and structures over which they operate as well.

The improvement has been countrywide, no one section having a monopoly on fast service. Also, despite the handicaps imposed upon them because their country was at war, the Canadian roads have kept pace in moving both domestic and international traffic expeditiously. The schedule improvements, the fast train operation, and other contributions to freight progress on the individual railways of the country are given on the following pages.

### Atchison, Topeka & Santa Fe

Since last year, the Santa Fe has arranged for 24-hr. earlier deliveries on carload and less-than-carload freight from Chicago, St. Louis and Missouri points to destinations in California; 24-hr. earlier delivery on l. c. l. traffic from Chicago to El Paso; and second morning delivery from Chicago to points as far west as Amarillo, Texas, and Albuquerque, N. M., with corresponding improvements at intermediate points. During the year, free pick-up and delivery service was also established at all points in California and Arizona. The "Green Fruit Express" from California to the East made the remarkable record during the year of a 99.8 per cent on-time performance. Potato specials were operated from the growing areas in Missouri to Chicago, 440 to 450 miles away, to give as early as 5 a. m. first morning delivery at the produce terminal there.

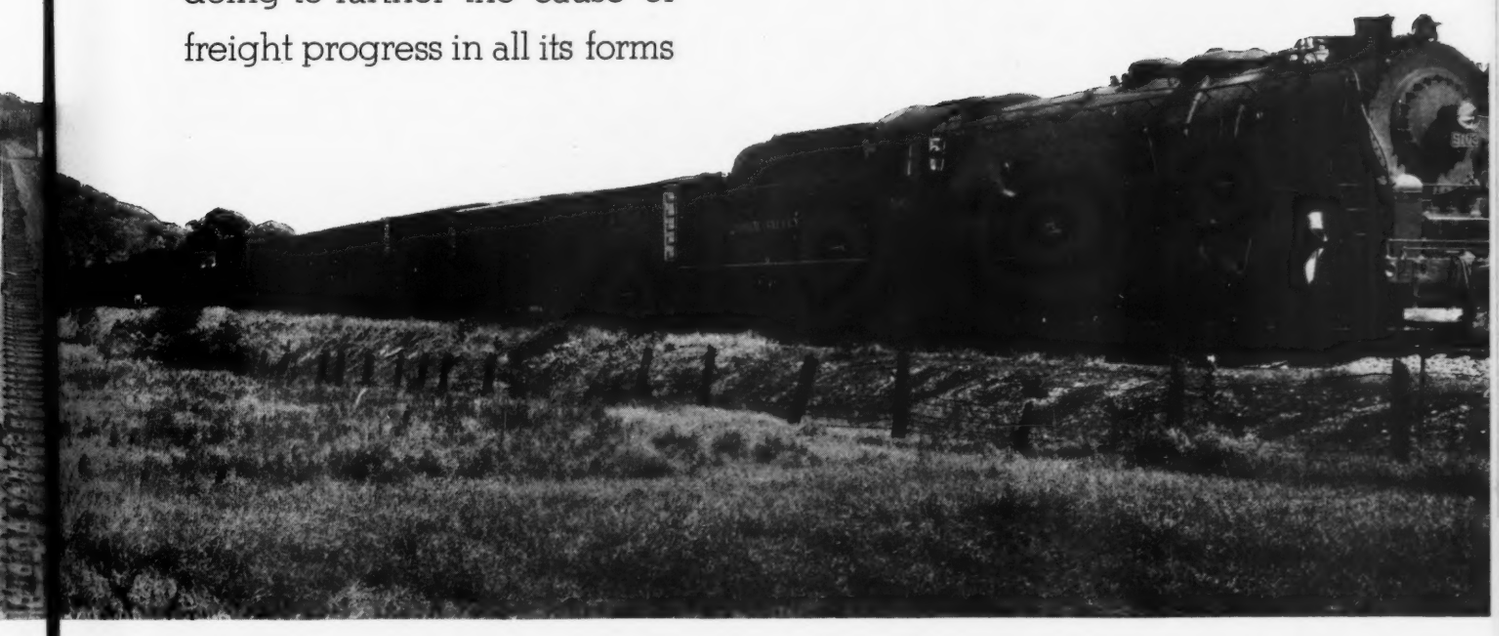
The Santa Fe operates overnight service for long distance runs as follows:

| *From* | *To* | *Mileage* |
|---|---|---|
| Chicago | Kansas City | 449 |
| Kansas City | Dodge City | 339 |
| Kansas City | Oklahoma City | 346 |
| Fort Worth | Galveston | 347 |

Perhaps the most famous of these runs is No. 39, Chicago to Kansas City, leaving Corwith yard, Chicago,

# And Still More Speed

What individual railways are doing to further the cause of freight progress in all its forms



at 6 p. m. and arriving at Argentine yard in Kansas City at 7:30 the next morning, an elapsed time of 13 hr. 30 min. for 449 miles, or an overall average speed of 33.3 m.p.h. This train is handled by Mikado (2-8-2) locomotives with a maximum rating of 1,600 tons, one locomotive handling the train from Chicago to Shopton, Iowa, 228.6 miles, and another from Shopton to Kansas City, 220.4 miles. An on-time performance of better than 97 per cent has been maintained for this train. This service, started on December 26, 1939, was set up for an average consist of 26 cars. On the completion of the first year of operation, however, this was stepped up to 50 cars nightly, because of an increase of 30 per cent in the l. c. l. traffic handled, as well as increased carload business. This service gives third morning delivery at Beaumont, Texas, Galveston and Houston, saving a full day to these points from Chicago.

This road now has more than 700 cars equipped to handle special manufactured products, in addition to 1,895 cars equipped with special auto-loading devices. The Santa Fe was the first railroad to build a 60-ft. flat car, and it now has a large fleet of 65-ft. low-side, mill-type gondola cars and 50-ft. refrigerator cars, which measure 42 ft. between bulkheads. Among other special-purpose cars vital to national defense are the Santa Fe's 95-ton ore cars, and new 50-ft. end door automobile cars equipped specially to handle airplane parts. These cars have the largest end door opening of any box car now in service. In the last 16 months, the Santa Fe has purchased 4,630 freight cars.

This road also made an outstanding individual contribution to railway freight progress on February 4, 1941, when it placed in regular mainline freight operation the first of its two new Diesel-electric freight locomotives. These engines are of 5,400 hp., with a tractive effort of 220,000 lb. at starting and a rated maximum speed of 75 m.p.h. These locomotives are 193 ft. long, with a power plant consisting of four 16-cylinder, two-cycle engines. Each locomotive is 14 ft. 1½ high from the rails and 9 ft. 10 in. wide. Their total weight, including fuel and sand, is 464 tons. The fuel capacity of 4,800 gal. enables these locomotives to haul a 100-car, 5,000-ton train 500 miles without stopping.

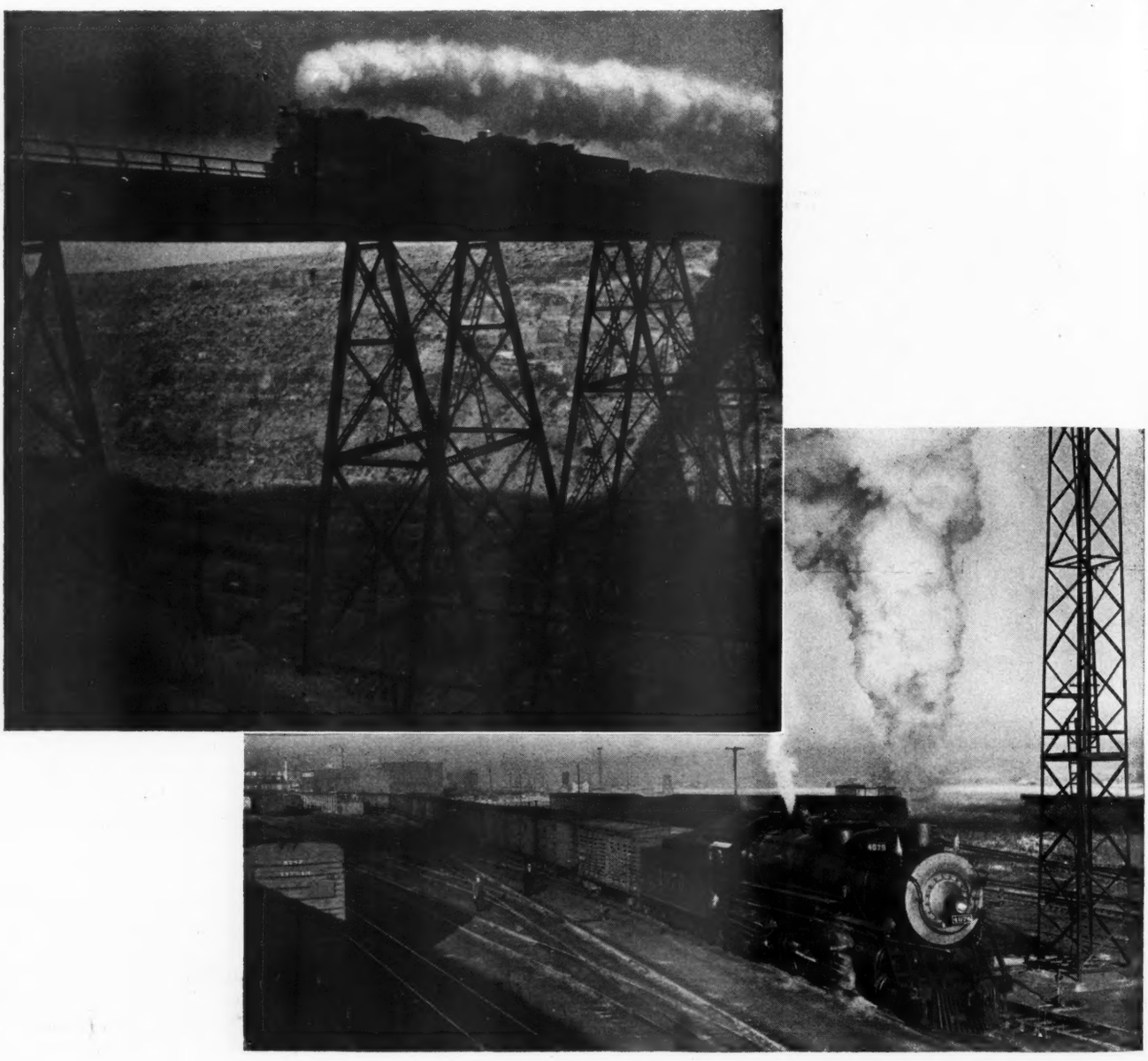
### Atlanta, Birmingham & Coast

This line has contributed its share to the fast perishable schedules between Florida and the North, and has also improved its Atlanta-Waycross and Birmingham gateway schedules in conjunction with various through routes.

### Atlantic Coast Line

This railway has made numerous changes in yard operations to improve service by classifying and dispatching trains in the minimum time. By working transfer houses at night and on Sundays, and by staggering the hours of freight-house forces to coincide with the schedules of fast trains, a material improvement has been made in l. c. l. handling. This railway has purchased 1,693 freight cars in the last 16 months.

Trains 208 and 207 have been speeded up between Augusta, Ga., and Richmond, Va., during the last year



to an overall average speed of 34 m.p.h. for the 465-mile run. These trains handle both perishables and general freight. Other fast overnight services for distances of approximately 300 miles or more are provided from Atlanta, Ga., to such South Carolina destinations as Columbia, Sumter and Florence; from Richmond and Norfolk to North and South Carolina points, and from Waycross, Ga., and Jacksonville, Fla., to Tampa and other South Florida points. These trains average from 40 to 60 cars each and have handled an estimated 35 per cent increase in traffic during the past year. A full day has been cut from the schedules of the potato trains from the North Carolina fields to the eastern markets, second morning delivery now being given instead of third morning delivery which prevailed for several years.

### Baltimore & Ohio

The B. & O. has shared in the schedule reductions necessary to cut a full day from the time on perishable freight from Florida to New York and New England. It also operates overnight service from Chicago and St. Louis to many cities on its lines and third morning delivery from these points to New England. L. c. l. perishable traffic has been materially speeded up by the purchase of more than 50 Portakold containers this year. This road's longest overnight runs are those between Jersey City and Pittsburgh, 525 miles, in 12 hr. 45 min., at an average overall speed of 41.3 m.p.h. This train consists largely of baggage cars rebuilt for freight service, and handles mostly l. c. l. and some perishable traffic.

L. c. l. schedules have received particular attention during the last year, most of them being reduced 24 hr. by the operation of more through-destination cars and the rearrangement of transfer points. "Sunset squads" have been established to supplement the "dawn brigades" at freight-houses so that l. c. l. may be loaded up to the last minute before the cars are pulled from the platform. During the last 16 months, the B. & O. has bought 4,573 freight cars.

### Bessemer & Lake Erie

The heavy tonnage operations of this road have been continued at their accustomed high efficiency, and are highly important in serving the Pittsburgh district, an

area which is vital to national defense. This road has purchased 1,125 freight cars in the past 16 months.

### Boston & Maine-Maine Central

In the last year, the B. & M. has established trains MP-4 and PM-3 between Mechanicville, N. Y., and Portland, Me., which, in conjunction with the Maine Central, give materially expedited service between Maine and the West. Other fast trains, handling high class merchandise and perishables from Mechanicville or Rotterdam to Boston, give second night or early third morning delivery on traffic from Chicago. The "Maine Bullet," from Portland to New York, 337 miles, operated in connection with the New Haven, gives overnight service on merchandise from Portland, Dover, N. H., and Lowell, Mass., Lawrence and Nashua to New York and also speeds up shipments from points north of Portland on the Maine Central.

The B. & M. has also established overnight service from Boston and other important terminals to practically every point in New England, in connection with the Maine Central, the New Haven, the Central Vermont and the Rutland. All of these trains are handling increased traffic this year, but despite this, the B. & M.-M. C. have established an outstanding on-time record for the last year on all trains and especially on the high-speed overnight trains.

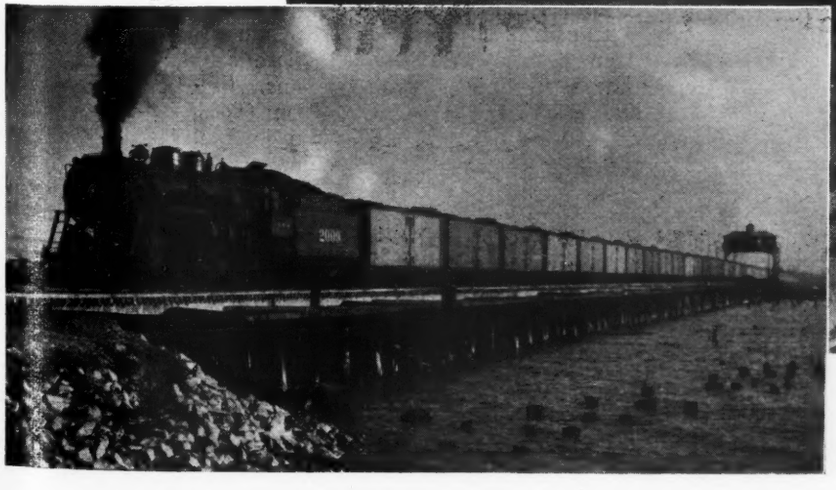
### Canadian National

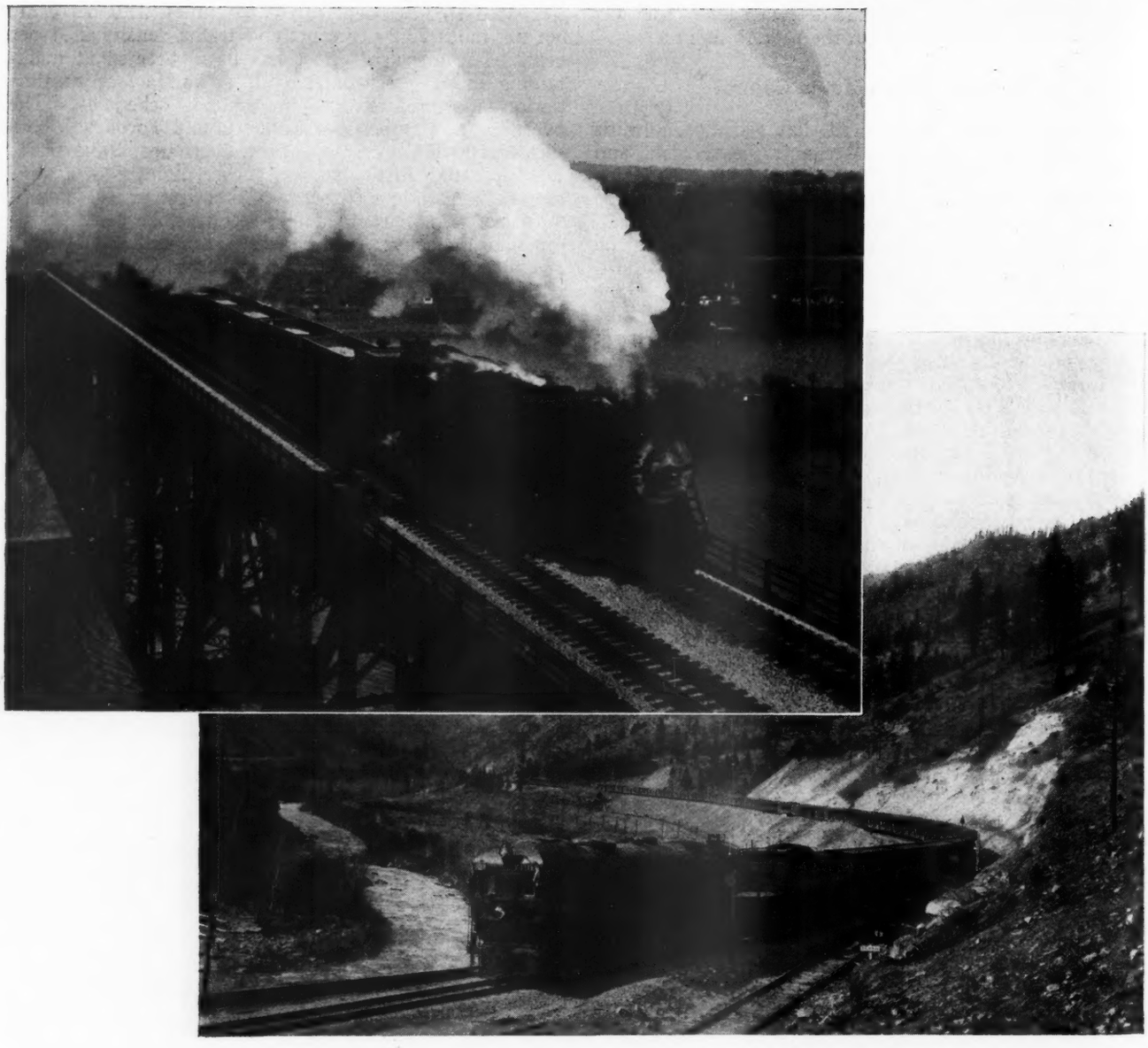
The war has placed a large additional burden on the C. N. R., as evidenced by the fact that, while certain wartime traffic moved in 1939, in 1940 freight train miles increased 16.6 per cent; gross ton miles, 21.9 per cent; net ton miles 25.2 per cent; and traffic density 25.4 per cent. The principal effort has been directed at maintaining existing schedules with a satisfactory on-time performance, rather than in reducing schedules. The overnight service between Montreal and Toronto in both directions (344 miles) has been continued, these trains now operating in two sections every night, with a third section frequently necessary. Other fast trains, such as those between Toronto and Vancouver, between Montreal and Vancouver, and between Montreal and Halifax and the various connections to and from Chicago via the Grand Trunk Western and other roads, are being maintained on pre-war schedules.

### Canadian Pacific

Despite wartime conditions, the C. P. R. has maintained and improved the efficiency of its large transfer at Newport, Vt., where freight from New England is trans-shipped for movement to points in Canada and western United States via the Canadian Pacific. During the year, further improvements have been made in the prompt switching and placing of carload business and in the cartage services, as well as the office work of freight handling.

The outstanding individual improvement in freight service during the last year has been the reduction of one day for transcontinental freight between Calgary and Winnipeg, 832 miles. Part of this time was saved by eliminating the necessity for the intermediate feeding of live stock at Moose Jaw. Another new train gives second day delivery from Toronto to St. John, 833 miles, saving a day in transit over the previous schedule.





Two Toronto-Montreal overnights are now operated in both directions, instead of one each way and the average consist of those trains varies from 45 to 60 cars.

### Central of Georgia

The operation of fast overnight trains has materially increased merchandise and other traffic on this railway. These trains operate from Atlanta, Ga., to Albany; Atlanta to Columbus; Atlanta to Savannah (both directions); and from Savannah to Columbus (both directions). A faster delivery of Georgia peaches to New York has been effected recently in conjunction with other lines, and, despite accelerated schedules and faster handling throughout, there has been a reduction in loss and damage claims.

### Central Vermont

The "Rocket" gives overnight service to Vermont points from Boston and southern New England and connects with the C. V. boat line from New London, Conn., to New York.

The schedule of "The Newsboy," a fast train handling newsprint tonnage from Quebec to New England and New York, has also been reduced.

### Chesapeake & Ohio

By a careful study of interchange problems, this road has expedited the movement of l. c. l. freight through terminals during the past year, frequently saving a day in transit. Schedules of many trains have been reduced from 1 to 3 hours, giving more satisfactory delivery times at a number of destinations. Overnight meat and livestock trains are operated from Chicago to Cincinnati, 283 miles, giving not later than 4:30 a. m. placement at Cincinnati. New ore unloading facilities at Newport News, which include the installation of box car loaders, have materially improved the service through this tidewater gateway. During the last 16 months, the C. & O. bought 3,295 freight cars.

### Chicago & Eastern Illinois

Further improvement this year has so adjusted the C. & E. I. freight train schedules as to movements with other lines that practically through service is maintained from all directions, without terminal or interchange de-

lays or layovers. The schedules have been fitted in with those of other lines to insure a continuous through movement of cars wherever possible. Despite an increased traffic that is averaging about 30 per cent, an excellent on-time record is being maintained on overnights trains between Chicago and St. Louis, Chicago and Evansville, and Evansville and St. Louis.

### Chicago & Illinois Midland

Although the second largest coal originating carrier in Illinois, this line is now paying particular attention to the development of general business, including perishables, forming part of a through route.

### Chicago & North Western

The C. & N. W. shares in the new transcontinental schedules giving sixth instead of seventh morning delivery on the Pacific Coast from Chicago. This road operates a fleet of maintrackers over its main lines between Chicago, Milwaukee and terminal and interchange points in the middle west and northwest on which the schedules have been steadily refined and improved to provide better connections with the trains of other railways, both eastbound and westbound. The most important of these maintrackers operate between Chicago and Council Bluffs, Iowa; and between Chicago and St. Paul-Minneapolis. As an example of such improvements, in January, 1941, the maximum permissible speed for freight trains between Chicago and Council Bluffs was increased from 50 to 60 m. p. h. This increase, based upon improvements in track and facilities, results in a more satisfactory operation as it permits better on-time performance through the opportunity of making up time with trains held beyond the scheduled departing time for cars loaded late or arriving late from connections. It also insures delivery to specific connecting lines, which is important on this run where through traffic predominates. The C. & N. W. also participates in the high-speed livestock run from Denver to Chicago, 1,034 miles, in 34 hr. 30 min. During the 16 months ending April 30, the C. & N. W. purchased 2,460 cars.

### Chicago, Burlington & Quincy

The Burlington participated in the new schedules cutting a day from Chicago and St. Louis to all Pacific Coast points. During the year, also, this road established early first morning delivery from Chicago to such stations as La Crosse, Wis., St. Joseph, Mo., and Ottumwa, Iowa, and Creston, between 300 and 450 miles distant; also first evening arrival at Billings, Mont., on merchandise from Denver, with early second morning delivery at Billings, and, by truck service, to a considerable area around Billings.

Further schedule reductions included 2 hr., Chicago-Kansas City; 12 hr., St. Louis-Denver; and as much as 20 hr., St. Louis to Montana points.

Fast overnight service for long distances is also given from Galesburg, Ill., to Lincoln, Neb., 372 miles; from Lincoln to Denver, 479 miles, and from Kansas City to East St. Louis, 350 miles. A particularly fast, long-distance train is No. 62, Denver to Chicago, 1,034 miles in 33 hr., or an average overall speed of about 32 m. p. h. This train handles a heavy volume of perishables and livestock, a substantial portion of which is through business requiring a fast, on-time schedule to protect market requirements.

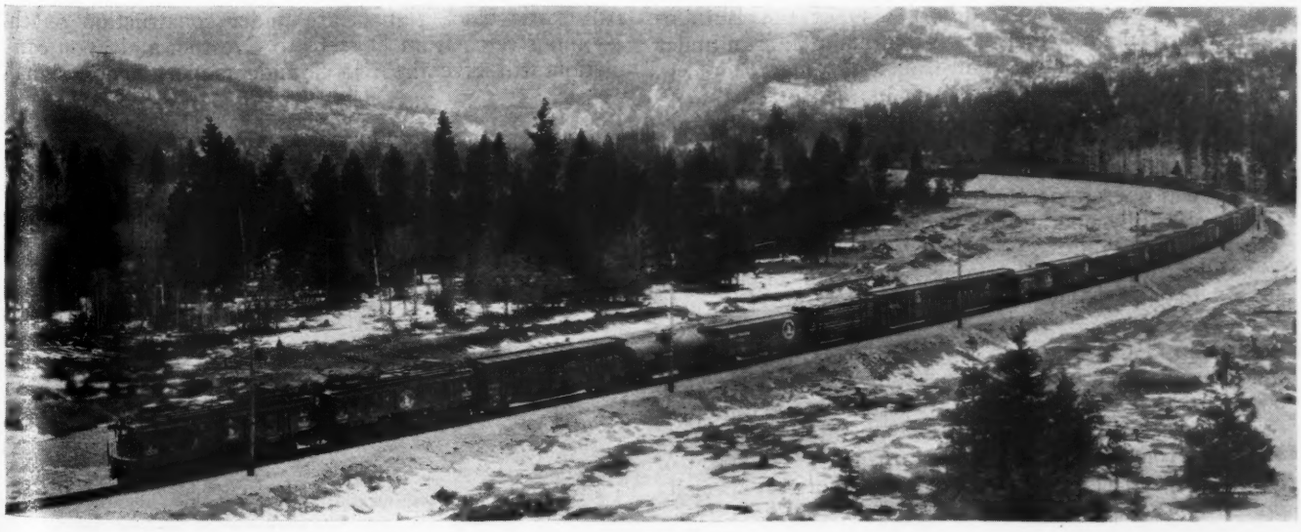
Other improvements during the year include the extension of the co-ordinated rail-truck service; the installation of a teletype tracing service for shippers and receivers; the provision of direct telephone service between important stations and terminals; the construction of new market terminals and team tracks at Denver, Kansas City and St. Louis; new Diesel-electric power for switching and the purchase of new equipment, including special types such as 65-ft. mill cars; covered hoppers; auto parts cars; auto device cars; longer flat cars, etc.

### Chicago Great Western

This railway participates in the through schedules from Chicago and other midwestern cities to the Pacific Coast which have been shortened by one day. It also operates daily high-speed meat and perishable runs from St. Paul and Minneapolis, with early afternoon arrival in Chicago, making connections with the fast early evening trains of the eastern lines. Similar service is operated from Omaha, Des Moines and St. Joseph on specified days. Perishable trains are also operated from St. Paul in the morning to give 3 a. m. arrival at the Chicago produce markets.

### Chicago, Milwaukee, St. Paul & Pacific

On September 30, 1940, the Milwaukee opened a $500,000 receiving and transfer station at Galewood, Ill., to improve its handling of merchandise freight. All



such freight from and to connecting lines is now trucked instead of being handled across town in cars, resulting in a saving of 24 hr. on most of the merchandise thus handled through Chicago. This road also participates in the 24 hr. reduction in transcontinental schedules from Chicago to the Pacific Coast.

The overnight fast freight trains are showing approximately 15 per cent increase in traffic and the regular time freight service from St. Paul-Minneapolis to Chicago has increased to the point where an advance section is being operated, giving earlier arrival in Chicago. During the 16 months ending April 30, this road purchased 2,591 freight cars.

### Chicago, Rock Island & Pacific

The Rock Island has continued its policy of modernization of locomotives to meet high-speed requirements; the installation of heavier rail; strengthening and rebuilding bridges; better signaling; and the use of a wide variety of office machinery to speed up its freight service and make it more dependable. As the result of efforts along these lines, the Rock Island schedules are faster and more dependable than ever before in the history of the railway.

Terminal service has been accelerated by additions to the already large fleet of Diesel-electric switchers. Overnight high-speed freight trains are being operated from Kansas City, serving Kansas, Oklahoma and Iowa points; from Memphis to Arkansas and Oklahoma points; from Chicago to Iowa stations; from St. Louis to Kansas points, and from Omaha to Iowa and Kansas stations. The transcontinental schedules via the Tucumcari and Colorado gateways are being steadily improved and especially fast movements of perishables or livestock are commonplace on the system. On May 1, 1941, the Rock Island, with other roads, opened a modern produce terminal at Kansas City. The Rock Island bought 1,335 freight cars in the 16 months ending April 30.

### Delaware & Hudson

The purchase of a fleet of 4-6-6-4 freight locomotives this year has reduced running time and increased trainloads on D. & H. manifest trains. Schedules are now in the process of readjustment and in anticipation of an increased rail movement between the United States and Canada because of the reduction in the number of intercoastal ships, the new schedule provides four daily trains between the border and the Binghamton and Wilkes-Barre gateways. The D. & H. forms a part of several routes giving third morning delivery between Chicago and New England and also of the Buffalo-Boston route for livestock trains that make the run under the 36-hr. limit and avoid in-transit feeding.

### Delaware, Lackawanna & Western

One of the pioneers in fast overnight service, having begun such operations on June 1, 1936, the D. L. & W. still successfully operates its high-speed New York-Buffalo trains, 395 miles, and its New York-Oswego trains, 308 miles. The former trains, with connections, give second morning New York-Detroit and third morning New York-Chicago deliveries. The westbound Overnight, No. 19, handles 45 to 50 carloads, running 395 miles in 11 hr. 30 min., at an average overall speed of 34 m. p. h. The eastbound train handles a minimum of 35 cars from East Buffalo to Binghamton and 55 cars or more from there to Hoboken at an average speed of 32 m. p. h. Pocono type (4-8-4) locomotives, specially designed for fast freight service, handle these trains.

The recent installation of car retarders at Hampton yard, Scranton, Pa., has speeded terminal handling materially and the D. L. & W. has continued its fast schedules for coal handling. A recent business development questionnaire was distributed to all employees requesting them to supply information not only concerning new business but also asking for information as to how to improve service. The replies were studied and many of the suggestions for better service to the public were adopted.

### Denver & Rio Grande Western

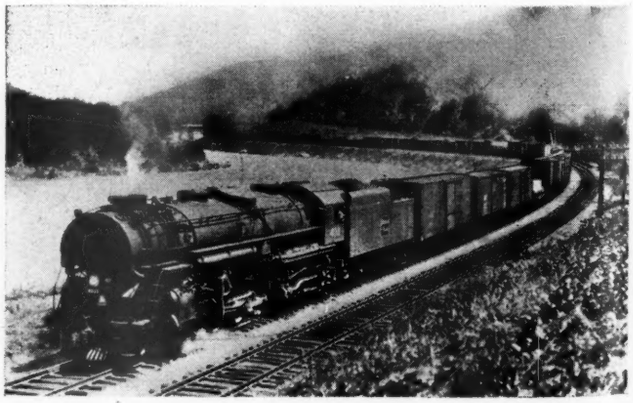
Refinements in equipment, facilities and speed in moving freight across the Continental Divide have been effected by the Rio Grande during the past 12 months. Fast over-night freight trains between Denver and Colorado's Western Slope, in conjunction with the coordinated truck service provided by the Rio Grande Motor Way, comprise expeditious mediums for transporting perishables, merchandise and other commodities between the fertile growing districts of western and southern Colorado and Denver. The Rio Grande has participated in both east and westbound transcontinental through schedules in a dependable manner. During the full year, 1940, the Rio Grande operated 5,204 symbol freight trains, with 90 per cent of them making schedule or better. Early in May, the Federal District Court at Denver sanctioned the purchase of 22 new locomotives, including three 5,400 h. p. Diesel electrics, to be used in through freight service between Denver and Salt Lake City.

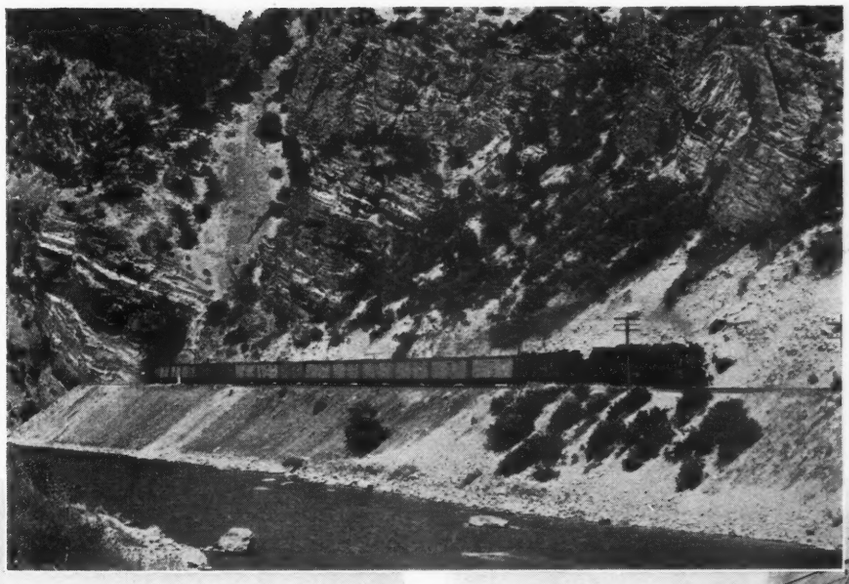
The other locomotives ordered include 14 Diesel-electric switchers; and five 4-6-6-4 Mallet locomotives which will cost $237,000 each.

The Rio Grande's most spectacular record in freight volume during the past 12 months has been that handled on the overnight "Rocket" between Denver and territory served by it in Colorado, which co-ordinates with the Rio Grande Motor Way trucks, providing first day delivery to all principal points in Colorado and New Mexico. It operates between Denver and Minturn, a distance of 302 miles.

Other fast freight service is provided by the "Ute," the Rio Grande's fastest freight train, maintaining a westbound schedule of 5:45 a. m. departure from Denver (Fox Junction) and arrival at Salt Lake City at 4:30 a. m. the next day.

The railroad now has four stretches of centralized traffic control and is working at present on two more, which, when completed in about three months, will provide a total of 105.5 miles of C. T. C. equipment. Automatic block signals are under construction on the 39-mile stretch from Dotsero to Orestod, and upon completion will give the Rio Grande modern block signals





over all its main line from Pueblo and Orestod, Colo., to Salt Lake City.

During the past 12 months, the Rio Grande has acquired 1,400 new box cars, 100 new automobile cars and 50 65-ft. gondola cars. In its Burnham shops the railroad built 100 stock cars, 10 steel cabooses, and 3 flatcars for handling truck trailers, during the past year. As of May 12, the railroad owned 11,999 standard gage cars, 218 more than the tentative quota set by the A. A. R. for 1942 and 1943, when the peak movement is expected to come.

### Duluth, Missabe & Iron Range

The vital movement of ore to the head of the lakes is the principal concern of this railway. Its line has been constantly improved for this transportation job, and, in the last year, in addition to other equipment, 8 Mallet locomotives that are among the most powerful ever built and 100 50-ton steel gondolas have been purchased to take care of the increased movement of ore.

### Erie

The Erie is operating trains Advance 86 and 87 between Jersey City and Buffalo, 424 miles, on a schedule of just over 12 hr., or at approximately 35 m. p. h. overall speed. Beginning eight years ago, the Erie began a modernization program for freight cars, including the purchase of new cars. As a result, by September 1, 1941, when all of the 3,125 new cars ordered since April 1, 1940, will be in service, 37 per cent of the Erie freight car ownership will be less than eight years old and much of the older equipment will have been rebuilt to conform with modern, high-speed designs. During the last year, the Erie has continued its program of laying heavy rail and installing or renewing stone ballast.

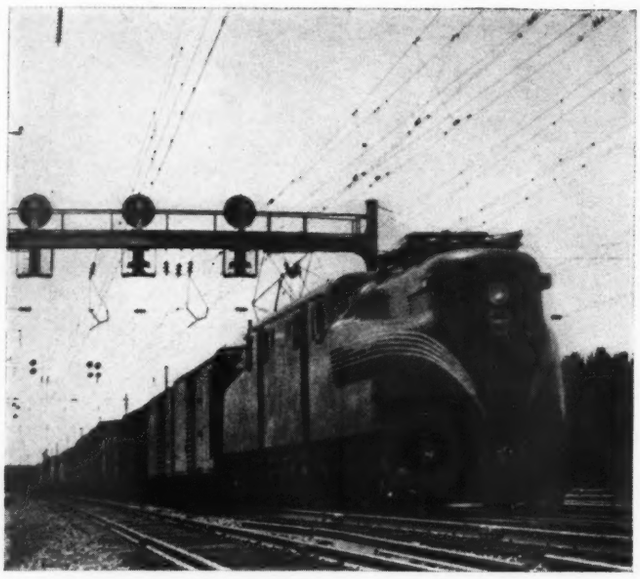
### Florida East Coast

During the winter season, the F. E. C., with its connections, operates a high-speed perishable train giving third morning delivery in New York on traffic from main-line points as far south as Fort Pierce, Fla. For the convenience of perishable shippers, the evening closing hours for the receipt of shipments in the heavy vegetable-producing territories have been set back from 2 to 4 hours, while maintaining the same delivery schedule at northern destinations. Reliable fifth morning delivery to New England points has been available to south Florida shippers since the fall of 1940.

### Great Northern

Train 401, Minneapolis to Seattle, is now 20 hr. faster than previously, 90 hr. as compared with 110 hr. This provides a corresponding cut in schedules to such important terminals as Havre, Mont., Great Falls and Butte; Spokane, Wash., and Portland, Ore. The Great Northern's premier overnight train leaves Minneapolis at 9 p. m., and arrives at Grand Forks, N. D., 320 miles, early the following morning. Other overnighters operate from Minneapolis to Buckenridge, N. D., via Willmar, Minn., and between several important terminals of lesser distance.

The G. N. has done much yard improvement work in the past year. A large car modernization program



has been carried on, and, in the 16 months ending April 30, 1941, more than 4,000 new cars have been ordered.

### Gulf, Mobile & Ohio

Since the consolidation of the G. M. & N. and the M. & O. to form the new system, schedules have been studied and revised to meet the needs of shippers, as permitted by the new set-up.

### Illinois Central

The fleet of high-speed overnights of the I. C. has grown materially since the MS-1 was started more than four years ago. The present list, with the mileages, is as follows:

| *Train* | *From* | *To* | *Mileage* |
|---|---|---|---|
| SE-1 | Chicago | Jackson, Tenn. | 470 |
| MS-1 | Chicago | Memphis | 527 |
| CC-3 | Chicago | Fort Dodge, Iowa | 375 |
| SM-3 | St. Louis | Memphis | 315 |
| MS-2 | Memphis | East St. Louis, Ill. | 313 |
| LM-1 | Louisville | Memphis | 393 |

The LM-1, established in the last year, cuts a complete business day from the former Louisville-Memphis service, with a comparable reduction to points south and west of Memphis. On February 24, 1941, another new train, SJ-9 was established from East St. Louis to Martin, Tenn., where it connects with the N. C. & St. L., giving additional service between St. Louis and the Southeast.

On October 16, 1940, an additional train was put on between Hammond, La., and Baton Rouge, to speed service to and from Y. & M. V. points. On January 14, 1941, overnight service was established in both directions between Chicago and Cedar Rapids, Iowa, shortening the westbound schedule 7 hours.

Savings of from 1 to 3 hours were made on many other schedules to meet the needs of shippers and freight houses at important stations are being opened some hours earlier for the same reason. Service for l. c. l. perishables in containers has been established between key points this year. During the last 16 months, the Illinois Central has ordered nearly 6,000 new freight cars.

### Lehigh Valley

The Buffalo-New York overnights, operating 446 miles in both directions at an average overall speed of 35 m.p.h., are the leaders of the L. V. fast trains. In addition, a number of east and westbound fast symbol trains are being operated between New York and Buffalo to take care of traffic to and from the West, giving close connections with trains of other lines at the gateways served by the L. V. To speed trains, the L. V. placed in operation during the past year a modern locomotive servicing plant at Towanda, Pa., and, as a result, is now operating locomotives through from one end of the line to the other.

The Lehigh Valley is now receiving delivery on 750 new freight cars.

### Louisville & Nashville

For the past five years, the L. & N. has been revising and improving its schedules, with the result that, between important terminals and to many intermediate stations, first morning deliveries are now being made for distances between 300 and 400 miles and second morning delivery up to distances of 1,000 miles. Trains 71 and 79, for example, leave Cincinnati and St. Louis respectively after the close of the day's business and arrive at Nashville by 6 a. m. after runs of more than 300 miles in each case. The trains are consolidated at Nashville and give first afternoon delivery at Birmingham, just over 500 miles, and second morning delivery at Mobile, Pensacola and New Orleans, over 900 miles. Another train from Cincinnati gives first morning delivery at Knoxville and first afternoon delivery at Atlanta, 488 miles. Northbound this distance is traversed by perishable trains in 14 to 15 hours, or at an overall speed of about 34 m. p. h.

The Louisville & Nashville also provides overnight service between Louisville and Memphis, 380 miles. Freight house forces at the principal transfers work staggered hours to speed the movement of merchandise as much as 24 hr. in some cases. The L. & N. has ordered nearly 6,000 cars in the last 16 months, including special duty cars such as 100 65-ft. mill gondolas; 200 50-ft-6 in. box cars with double side-doors and end-doors, and 100 double-door, end-door 40-ft. box cars, both types for loading lengthy, bulky materials; and 25 covered, hopper-bottom cement cars.

### Minneapolis & St. Louis

This road has continued its modernization program at an accelerated pace in the last year, and was able to join in the cutting of a day from Chicago to the Pacific Northwest, as part of one of the through routes. The modernization of main line freight locomotives to give an increased tractive effort of 22 per cent is nearing completion.

Diesel-electric switchers are now in operation at all main-line terminals to reduce interchange delays and additional units are contemplated.

New freight car equipment includes 12 steel cabooses built in 1940, and 15 under construction this year, 400 new cars ordered in 1940, and 600 for this year, with plans for an additional 250 now being considered. This road has increased its freight train speed more than 20 per cent in the past few years and its transportation ratio of 33.87 in 1940 is the lowest on record. Its traffic

solicitation organization was materially strengthened in 1940.

### Minneapolis, St. Paul & Sault Ste. Marie

During the last year, the Soo inaugurated a fast evening train from St. Paul-Minneapolis to Chicago, improving the service 12 hr. In addition, schedules have been re-adjusted and tightened in the last several months to insure proper connections with other lines at the Chicago, Twin Cities and Head of the Lakes gateways. Fast overnight service between the Twin Cities, Chicago and Fox River Valley points in Wisconsin, such as Neenah, and Fond du Lac, has materially increased traffic. Faster trains are also operated to the Gogebic Range territory along the Wisconsin-Upper Michigan state line.

### Missouri-Kansas-Texas

The "Komet" fleet gives overnight service between terminals more than 300 miles apart as follows:

| *From* | *To* | *Mileage* |
|---|---|---|
| St. Louis | Parsona, Kan. | 378 |
| Dallas-Fort Worth | Houston | 339 |
| Dallas-Fort Worth | San Antonio | 328 |
| Houston | Dallas-Fort Worth | 339 |
| San Antonio | Dallas-Fort Worth | 328 |

Close connections have also reduced the overall schedule on freight moving from St. Louis or via the St. Louis gateway to the Southwest. Another high-speed train is the Katy Packer, handling livestock and perishable meat on an 18 hr. 30 min. schedule from Fort Worth, Texas, to Kansas City, 506 miles and a 25 hr. 45 min. schedule to St. Louis, 757 miles.

### Missouri Pacific

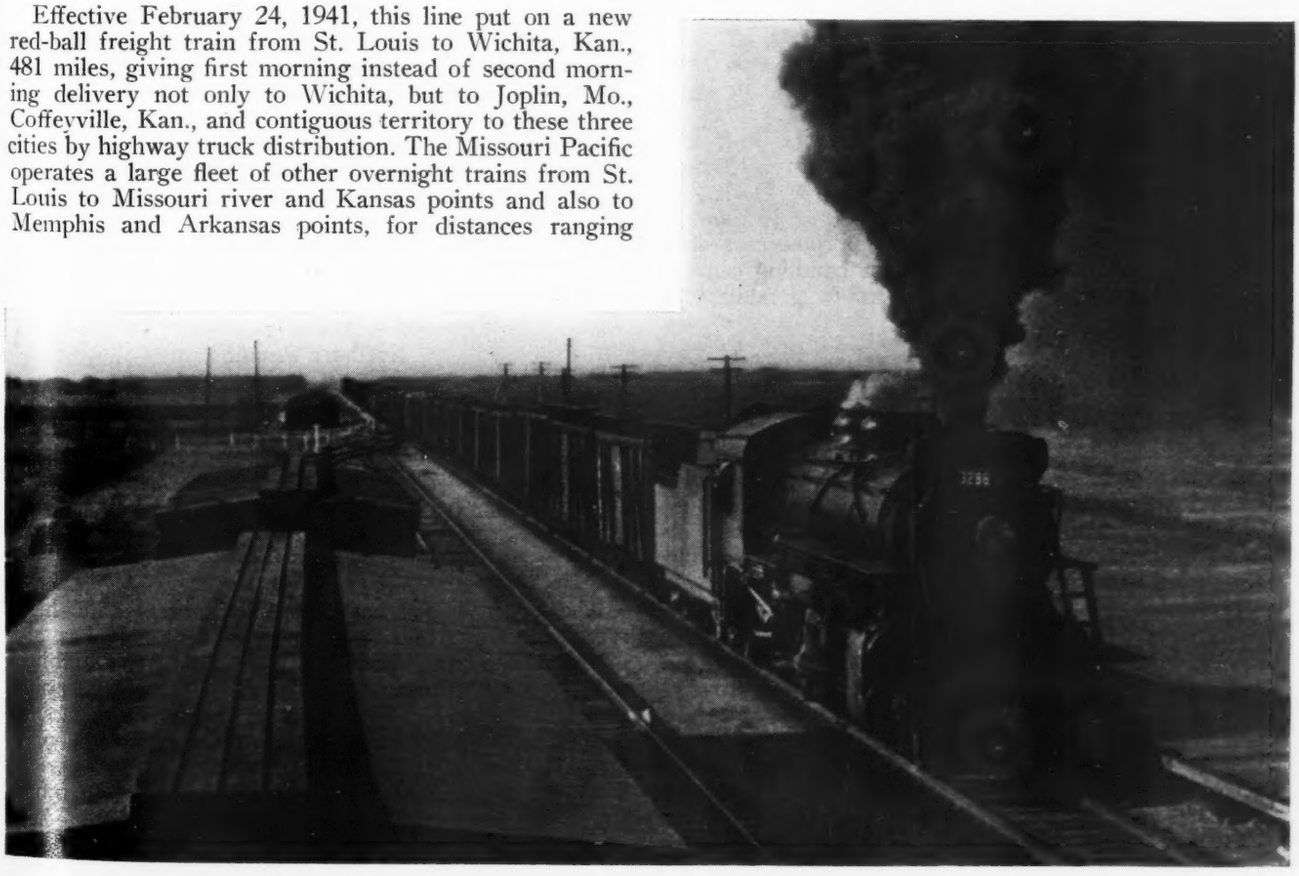
Effective February 24, 1941, this line put on a new red-ball freight train from St. Louis to Wichita, Kan., 481 miles, giving first morning instead of second morning delivery not only to Wichita, but to Joplin, Mo., Coffeyville, Kan., and contiguous territory to these three cities by highway truck distribution. The Missouri Pacific operates a large fleet of other overnight trains from St. Louis to Missouri river and Kansas points and also to Memphis and Arkansas points, for distances ranging between 280 and 500 miles. Overnight services from Kansas City extend between 200 and 300 miles; and, from Omaha, between 200 and 500 miles. Overnights from Houston serve the entire Lower Rio Grande Valley, as well as Austin, San Antonio, Fort Worth and Dallas, the distances ranging between 250 and 400 miles. Other overnight services are operated from Memphis, New Orleans, Little Rock, Fort Smith, Saline and San Antonio to surrounding trade territories. These trains have brought much increased business. For example, from New Orleans to Louisiana points, the tonnage has increased 79.5 per cent, and on the St. Louis-Wichita run five regular daily cars have been added since its inception.

St. Louis-Pacific Coast schedules have been stepped up so that freight from St. Louis arrives in Los Angeles and Oakland on the fourth evening for early fifth morning delivery; also sixth morning delivery to Portland, Seattle and Tacoma.

The Missouri Pacific has 100 containers in service for handling l. c. l. perishables. Since 1936, the M. P. has bought 6,033 new freight cars, 1,422 being built this year. Of all box and auto cars owned, 57 per cent are equipped with snubbers to protect the lading.

### New York Central

The demands for faster service have been complied with and, in many cases, anticipated by the N. Y. C., which has made numerous improvements in service during the year which, collectively, represent an outstanding achievement. The N. Y. C. operates fast overnight trains between all its important terminals, usually in both directions, up to 300 miles distant from each other. Longer overnight services are NB-1 and BN-2, solid merchandise trains between New York and Buffalo, 429 miles (serving Utica, Syracuse and Rochester en route) on a schedule of 10 hr. 50 min., or at an average overall



speed of 39.6 m. p. h. Train WB-3 is operated overnight from Weehawken to Buffalo, 429 miles; and trains CN-2 and LS-7, between Chicago and Cleveland, 340 miles. Examples of fast long distance trains are SLD-6, East St. Louis to New York, 1,156 miles, in 47 hr. 30 min., and CDN-4, Chicago to New York, 961 miles, in 39 hr. In recent months, the N. Y. C. has purchased 50 Mohawk type locomotives, 25 equipped with roller bearings; 36 Diesel-electric switchers; and 12,607 new freight cars, with a total carrying capacity of more than 720,000 tons.

### New York, Chicago & St. Louis

The Nickel Plate increased its average miles per freight car per day from 64.6 in 1939, to 67.3 in 1940, with a further increase in prospect this year. This includes all cars, loaded and empty. Overnight freight service is maintained in both directions between Chicago and Cleveland, 336 miles. The N. Y. C. & St. L. has purchased nearly 1,500 new cars in the last 16 months, and maintains a good supply of special-purpose cars, such as covered hoppers, container cars for handling cement, dolomite and similar products and 65-ft. gondolas for the steel trade.

### New York, New Haven & Hartford

The New Haven has maintained an average freight train speed of 14.4 miles per train hour, despite an increase of 18.2 per cent in freight train miles in March, 1941, for example, as compared with last year, an increase in gross ton miles of 24.8 per cent, and an increased train load of 5.7 per cent. The problem of the New Haven is to maintain the speed and regularity of its service between the sizeable cities located every few miles along its lines and to make satisfactory, fast connections with other lines on through movement. It shares, however, in the operation of fast overnight trains, including the Maine Bullet, operated in both directions between Portland, Me., and New York, in connection with the Boston & Maine and the Speed Witch, operated in both directions between Boston and Baltimore, in connection with the Pennsylvania.

The New Haven has on order at this time 1,000 box cars, 5 electric freight locomotives and 10 Diesel-electric switchers, and plans the purchase of 5 Diesel-electric road locomotives of 4,000 h. p. each for joint freight-passenger service, and 6 additional 44-ton Diesel-electric switchers.

### Norfolk & Western

The N. & W. is now spending more than $5,000,000 in the expansion of its terminal facilities at Roanoke to speed the handling of freight. It has recently placed in use a new 1,100-car capacity coal classification and storage yard at Lambert Point, Va., and built warehouse and track facilities for Virginia vegetable shipments at Portlock yard, Norfolk. During the last few years its large ownership of coal-carrying cars has been further increased; a number of additional, heavy, locomotives equipped with roller bearings have been purchased; and automatic signals have been installed or replaced over a large portion of the main line and important branches.

During 1940, this road handled a greater tonnage of coal than ever before, exceeding the previous heavy peak year of 1929.

### Northern Pacific

With connections, this road has cut a day from the schedule from Chicago to its Pacific Coast terminals. Schedule improvements are being made whenever developments suggest their necessity. In the last 16 months, the N. P. has bought 2,530 new freight cars.

### Pennsylvania

The Pennsylvania has materially increased its high-speed overnight service during the year. It has also improved the handling of l. c. l. freight by the establishment of merchandise service bureaus at some 50 points on its lines, and has inaugurated the practice of moving l. c. l. on the shipping order and eliminating the waybill.

The extent to which trains making early first morning deliveries between distant points have been built up is shown in the following table:

| *Train* | *From* | *To* | *Mileage* |
|---|---|---|---|
| LCL-1 | New York | Pittsburgh | 426 |
| LCL-2 | Pittsburgh | New York | 426 |
| LCL-3 | Philadelphia | Pittsburgh | 344 |
| LCL-4 | Pittsburgh | Philadelphia | 344 |
| 1st LCL-5 | Baltimore | Pittsburgh | 326 |
| 2nd LCL-5 | Philadelphia | Pittsburgh | 344 |
| NE-1 | Boston | Philadelphia-Baltimore | 421 |
| NE-2 | Baltimore-Philadelphia | Boston | 421 |
| CO-1-PH-7 | Cincinnati | East St. Louis | 376 |
| CO-2-NW-82 | Chicago | Columbus | 308 |
| IL-2 | Chicago | Louisville | 305 |
| WS-4 | Chicago | Canton | 362 |
| CO-2 | Chicago | Cincinnati | 292 |
| CO-1-NW-85 | Cincinnati | Chicago | 292 |
| IL-1-NW-85 | Louisville | Chicago | 305 |

Trains LCL-1 and LCL-2, originally established to handle merchandise between New York and Pittsburgh, received such instant recognition that it has been necessary to establish additional service. Using these trains and connections west of Pittsburgh, it has been possible to extend this fast service to such points as Toledo, Detroit, Columbus, Cincinnati and Indianapolis on a second morning basis. As a result, it has become necessary to establish one additional section eastbound and three westbound, thus providing a high-speed fleet of six trains between the New York-Philadelphia-Baltimore and Pittsburgh areas, solely for the movement of merchandise traffic.

Recent additions to the Pennsylvania's fleet of freight speedsters include train PC-1, established February 10, 1941, giving overnight service from the Pittsburgh area to Buffalo, and train WS-4, established April 7, 1941, leaving Chicago well after the close of business and arriving at Enola yard, Harrisburg, early the second day, providing, with connecting trains, second evening arrival at such points as New York, Philadelphia and Baltimore, insuring early third morning placement and delivery. In addition to the listed trains, overnight service is now being provided between all important terminals at shorter distances from each other.

The New York-Washington line provides several more examples of high-speed freight service on traffic moving via Potomac Yard. For example, the Pennsylvania shares in the expedited third morning delivery of fruits and vegetables from south Florida to New York, and in second evening delivery on peaches from Georgia to New York. Through its speedy MD-6 and MD-8, the Pennsylvania gives fast movement to Florida perishables and other traffic from the south for Long Island and New England points every 12 hours every day of the week. MD-1 and MD-13 give the same service southbound. Several trains daily make the run between Potomac Yard and Jersey City, 229 miles in just over seven hours.

The heavy traffic East and West has caused the Pennsylvania to add to its fleet of outstanding freight trains until now there are two regular fast trains between Enola and East St. Louis daily; two from Enola to Chicago and three from Chicago to Enola. These trains are important carriers of transcontinental freight.

One of the notable developments of the year is the "match-up" service now produced on l. c. l. traffic of the Pennsylvania with various connecting lines. Under this plan, the railroads get together and decide the routes through which l. c. l. traffic can move to establish fastest schedules, and routes in tariffs are then corrected accordingly. The next step is to so co-ordinate the service at interchange points that the 24 hr. delay heretofore experienced is eliminated.

In the last year, in an effort to reduce the number of overs and shorts caused by transcribing errors, and to reduce the clerical work involved in the handling of l. c. l. traffic, the Pennsylvania began the movement of l. c. l. on the shipping order when destined to points on its railroad. The plan worked out so well, and met with such a ready response from agents and patrons, that what was begun as an experiment has now been extended to cover two-thirds of the railroad. Under this plan, freight bills are furnished to patrons who desire them, but to the many who have no need for freight bills, none is supplied.

### Pere Marquette

The maiden trip, on March 12, 1941, of the new steamer "City of Midland," which combines all modern features in car-ferry design, has had the effect of materially improving the freight and passenger service of the P. M. across Lake Michigan. The use of this huge, new, fast ship not only improved schedules in itself, but it also permits more advantageous assignments of other boats in the car-ferry fleet.

The P. M. operates high-speed, overnight freight service between Chicago and Detroit in each direction, with close connections for eastern and Canadian points, as well as fast service from Detroit to the car-ferry ports on the east side of Lake Michigan. In recent months, the P. M. has purchased 1,400 freight cars and 12 Berkshire-type locomotives, which will increase the capacity

of the railroad both as to the number of trains operated and the number of gross tons per train mile.

### Reading

Quicker dispatch of cars, particularly through the Philadelphia area, is being accomplished by the Reading's fleet of 28 Diesel-electric switchers, 13 of which were installed in the last 12 months.

The Reading and the Central of New Jersey share with the B. & O. in the operation of the high-speed overnight trains between New York and Pittsburgh. Fast service is not confined to merchandise, however. Two new trains have recently been established between Allentown, Pa., and Catasauqua to speed the movement of cement and, last winter, overnight service was established on coal from the Pennsylvania anthracite fields to tidewater.

Additional shorter runs have been established throughout the railway, making connections with other railways for through movement and, also because of in-

creased business, daily service has been restored on many branch lines.

### St. Louis-San Francisco

The Frisco has added to its fleet of "Flashes" during the year by the establishment of a fast St. Louis-New Orleans run via Boligee, Ala., and the Southern. Several hours have also been cut from the Memphis-St. Louis schedules. The Frisco operates high-speed overnight trains, giving first morning delivery at points 300 or more miles distant, from St. Louis to Tulsa and Oklahoma City, 542 miles; from Kansas City to Tulsa and Oklahoma City, 378 miles; and between St. Louis and Memphis in both directions, 305 miles.

### St. Louis Southwestern

This railway was one of the pioneers in high-speed freight service and has made many improvements during the last year. Effective June 3, 1940, the Cotton Belt, with its connections, reduced its freight schedules from or via the St. Louis-East St. Louis gateway to California from sixth morning to fifth morning delivery; from the Chicago gateway from seventh to sixth day delivery. On May 28-29, 1940, third morning delivery at El Paso, Texas, and fourth morning delivery at Phoenix, Ariz., were established from or via St. Louis-East St. Louis switching district; with fourth day delivery at El Paso and fifth day delivery at Phoenix, Ariz., from or via Chicago, thence East St. Louis and connections.

For many years the Cotton Belt has operated several freight trains which afford first morning delivery for distances 300 miles and over. For example, southbound: train 3-43, the "Blue Streak," train 19, the "Motor Special," and train 17, the "Southwester"; also, northbound: train 16, the "Pacific Coaster," or "Colton Block," and train 18, the "Marketer."

The Cotton Belt is continuing large expenditures in improving its roadbed with heavier rail and ballast, and is making many improvements in shops, etc., to enable it to maintain its motive power and equipment more economically.

### Seaboard

Georgia peaches now get to New York at 11 p. m. the first day after loading instead of second morning thereafter, as the result of schedule reductions by the Seaboard and its northern connections. Other important schedule reductions made by this line during the year include service from:

Montgomery to Columbus
Montgomery to Savannah
Macon to Jacksonville
Atlanta to Richmond
Jacksonville to Montgomery
Savannah to Montgomery
Savannah to Columbus

The Seaboard operates fast overnight freight service between terminals 300 or more miles distant including Columbus, Ga., and Jacksonville, Fla.; from Savannah, Ga., to Tampa, Fla.; Montgomery, Ala., and Raleigh, N. C.; Jacksonville, Fla., to Montgomery; Richmond, Va., to Charlotte, N. C., and Wilmington; Richmond to Columbia, S. C., and Charleston, as well as several others via connecting lines.

The Seaboard also operates fast trains from the textile mill district on its lines for rail-water movement via Norfolk to eastern destinations.

### Southern

The Cottoncade has cut 24 hr. from its schedule this year from Greenville, S. C., to Pinners Point, Va.; the Fabricade runs 24 hr. faster from the textile mill territory in the Carolinas to New York; a through service established with the Frisco slices 24 hr. from the time from St. Louis and Kansas City to New Orleans and the schedules of the Clipper have reduced the time from Cincinnati to New Orleans and Jacksonville by 24 hr.

Fast overnight service was expanded during the year and now includes the following:

| *From* | *To* | *Mileage* |
|---|---|---|
| * Jacksonville | Atlanta | 350 |
| * Atlanta | Cincinnati | 490 |
| * Atlanta | Louisville | 467 |
| * Memphis | Chattanooga | 311 |
| * Cincinnati | Birmingham | 481 |
| * Spencer, N. C. | Atlanta | 306 |
| * Spencer | Potomac Yard, Va. | 323 |
| * Spencer | Pinners Point, Va. | 313 |
| Greenville, S. C. | Pinners Point | 466 |
| Jacksonville | Charlotte | 409 |
| New Orleans | Birmingham | 354 |

* In both directions.

Several other trains afford comparable fast service for longer distances, such as the bean trains from Jacksonville which give first evening delivery at Potomac Yard.

The Southern recently purchased some 5,400-h. p., Diesel-electric freight locomotives for operation in the mountain territory between Oakdale, Tenn., and Danville, Ky., as well as approximately 4,000 new freight cars in the last 16 months.

### Southern Pacific

An additional manifest train was established in October, 1940, from Portland, Ore., to Roseville, Cal.; in June, 1940, the schedule from Chicago to Pacific Coast points was cut to sixth morning and from St. Louis to fifth morning. Both of the above mentioned reductions save a full day.

The S. P. has continued successful operation of its pioneer "Overnights" between San Francisco and Los Angeles, 470 miles, and of the "Arizona Overnight" from Los Angeles to Tucson, 502 miles, both of these trains handling only merchandise. Mixed train services that give overnight service to terminals 300 miles or more distant operate from Portland, Ore., to Klamath Falls, 318 miles; San Francisco-Oakland to Klamath Falls, 407 miles; and San Francisco-Oakland to Ashland, Ore., 408 miles.

Since January 1, 1941, the S. P. has bought 40 Diesel-electric switchers, costing $2,900,000, and has announced a further $20,000,000 purchase program, including 50 new steam locomotives, costing $11,000,000 and 2,500 new freight cars, costing $9,000,000.

### Texas & Pacific

Overnight high-speed trains leave Dallas and Fort Worth in both directions on this railway, making first morning deliveries at points up to 450 miles distant. Similar fast trains are operated in Louisiana, so that practically the entire railway between El Paso and New

Orleans now has one or more daily fast overnight trains serving the important terminals.

### Union Pacific

This road participated in the 24-hr. earlier delivery at all Pacific and north Pacific Coast points, made effective June 3, 1940. Overnight service is provided from Portland, Ore., to western Idaho, 491 miles; Los Angeles to Las Vegas and Boulder Dam, Nev., 334 miles; Salt Lake City to Las Vegas, 449 miles; Salt Lake City to Nampa and Boise, 433 miles; Denver to Green River, Wyo., 413 miles; Omaha to Sidney, Nebr., 404 miles; Kansas City to western Kansas, 377 miles; Denver to eastern Kansas, 338 miles; and Denver to western Nebraska, 400 miles. Another fast train is the livestock run from Denver to Chicago, 1,034 miles, in 34 hr. 30 min. The U. P. has recently purchased 20 super-Challenger freight engines.

### Wabash

The Wabash operates fast overnight service between the principal terminals on its railway under 300 miles distant, and gives next day delivery from St. Louis to Des Moines, 340 miles, and between East St. Louis and Detroit, 488 miles. During the last 16 months, the Wabash has had a continuing program of freight car modernization in progress, involving some 3,000 cars.

### Western Maryland

This road has recently placed in service 12 new high-speed locomotives, capable of 70 m. p. h., for fast freight service. This fleet of new power has made it possible to improve the schedule to some of the points on line by several hours, and further enables the road to maintain its tight schedules on overhead freight, when connections are running late. In order to serve the lime and cement industries along its line better, the Western Maryland now has under construction 40 additional 70-ton covered hoppers, which will raise this road's covered hopper equipment to one hundred units. The Western Maryland has just completed widespread adjustments in its yards and other facilities and the bad order car situation is better than at any time in the history of the road, only 1.1 per cent of its cars being out of active service at the present time on account of being bad order.

### Belt Lines

The various belt lines, many of which compare favorably with the trunk lines in earnings and volume of business handled, do not have opportunities for long runs by fast trains. Their contribution to freight progress is equally important, however, for by improving their operations and their plant and physical facilities, they play a large part in eliminating terminal delays, by doing the heavy work of getting the freight to the fast trains without terminal delays. As examples, the Elgin, Joliet & Eastern has markedly increased and modernized its car supply and improved its right-of-way and facilities; while the Terminal of St. Louis has purchased 16 new Diesel-electric switchers during the year.

There it is—a record of achievement that is unparalleled in any 12-month period of the railways' history. Such a large and countrywide shrinking of the freight map has never been accomplished before. Importantly, too, it has been accomplished just when it is most needed, most vital to the nation's well-being—possibly to the nation's very existence.

## Freight Transportation Progress; 1917-1918 Compared with 1941

(*Continued from page 876*)

The average daily movement of cars in October, 1939, when the best record in utilizing them was made, was 38.1 miles; and in October, 1940 it was almost 39. No doubt by reasonable efforts by both railways and shippers it could be increased to an average of 40 miles during the rest of this year and to 45 miles during the fall peak movement of traffic. A daily movement of 45 miles would be only 15 per cent more than was attained during October, 1940—and, in fact, only the increase actually attained in the first two months of 1941; and yet, other things being equal, it would be equivalent to an increase of about 200,000 in the number of freight cars on line last October. Equipment is the critical factor in the equation. If there is no shortage of equipment next fall the railways probably will handle the traffic satisfactorily; for apparently the peak load will not much exceed a million carloads a week; and in the falls of both 1926 and 1929 they handled peak loads exceeding 1,200,000 carloads a week without any congestion or unusual delays.

### Looking Ahead to 1942 and 1943

Looking farther into the future, the Association of American Railroads has estimated that freight loadings in 1942 will be 44 million cars and in 1943 will be 48 million cars; and that to handle this traffic the railways will have to increase their ownership of freight cars by 120,000 in 1942 and by an additional 150,000 in 1943. Whether traffic will increase this much, and whether the railways will be able to increase within two years the number of cars owned by them by 270,000, depends upon many things, and is, therefore, largely conjectural. But there are certain facts of great importance that are not conjectural. There actually were 53,100,000 carloads of freight loaded and moved by rail in 1926; and the annual average in the five years 1925-1929, inclusive, exceeded 52 million annually. There has been some increase in the capacity of trackage and terminals since then, an improvement in locomotives and cars, and a great increase in the efficiency with which they are utilized.

Therefore, it can be predicted with confidence that if (1) there are no such interferences with the efficiency of operation by the abuse of priorities and otherwise as there were in 1917, and by the adoption of government operation as in 1918, (2) no more great strikes such as the recent one in the coal mines causing abnormal fluctuations in traffic, and (3) the government will give the railways in 1941, 1942 and 1943 the priorities required to enable them to get the equipment and materials they have ordered and will order—then the railways will continue to furnish all the service required to handle their immensely preponderating share of all the country's commercial and defense traffic.

**Railway Service Is Essential In Keeping the Nation's Vital Steel Industry Going**

# The Railways in Near-Wartime

## The clarion call to the defense of the nation finds the railways preparing to serve all needs

TODAY, as was true more than 20 years ago, the term "bottle-neck" is on every tongue. In any mechanized modern war, or preparation against war, it has a dread significance, whether applied to the field of battle or to the industrial front—as industries all over the country are re-discovering daily. The leaders of the railway industry, with the memory of Federal control and the attendant break-down in transportation during the last war still fresh in their minds, are taking many measures to eliminate bottle-necks in their operations, and numerous tests to which they are being put are demonstrating the measure of their success. Calm and intelligent preparation and, above all, anticipation of emergencies before they occur are replacing the hysterical, hit-or-miss methods that were introduced as last-minute palliatives during the last war.

The railways are doing everything possible to anticipate the nation's needs in transportation; experts are daily estimating future carloadings and checking and revising these figures as new data become available; many millions have been and are being spent for new rolling stock and new facilities; the utmost co-operation is being rendered to the naval and military authorities; shipper co-operation is being solicited. Nothing that will contribute to the efficiency of rail transportation is being overlooked.

On May 1, as an example of the manner in which the railways are keeping abreast and even well ahead of the times, the Association of American Railroads sent to all lines the result of an elaborate study made of future carloadings, with an estimate of the additional freight cars necessary to handle this loading. The association estimates a traffic in 1942 of 43,680,000 carloads, requiring an increase in the ownership of freight cars of approximately 120,000. For 1943, the estimate of car loadings is 48,048,000, which would call for another increase in ownership of approximately 150,000 cars to handle the traffic of that year. This increase in car ownership is in addition to the new cars acquired and those rebuilt since the beginning of the present emergency for the handling of 1941 traffic. It is also in addition to cars purchased to replace those that are

retired every year, a figure which, in pre-depression times, ran to about 100,000 cars annually.

### Railways of Prime Importance

Efficient utilization of this country's tremendous resources constitutes the key to the entire preparedness program and, to get fullest advantage from such resources, an efficient, adequate transportation system is of first importance. The necessity of this to the nation can hardly be over-emphasized and this was recognized at the very inception of the defense program by the appointment of Ralph Budd, president of the Chicago, Burlington & Quincy, as a member of the Advisory Commission of the Council of National Defense, in charge of transportation matters. The railway industry of this country is preparing to play this major role. Our railways are hauling and are efficiently preparing to haul anything, anywhere, anytime—from a small package to heavy artillery or huge machines. The railways move the freight of whatever character, whatever the season. They constitute the only all-purpose, all-around, universal agency for the type of mass transportation we need desperately right now.

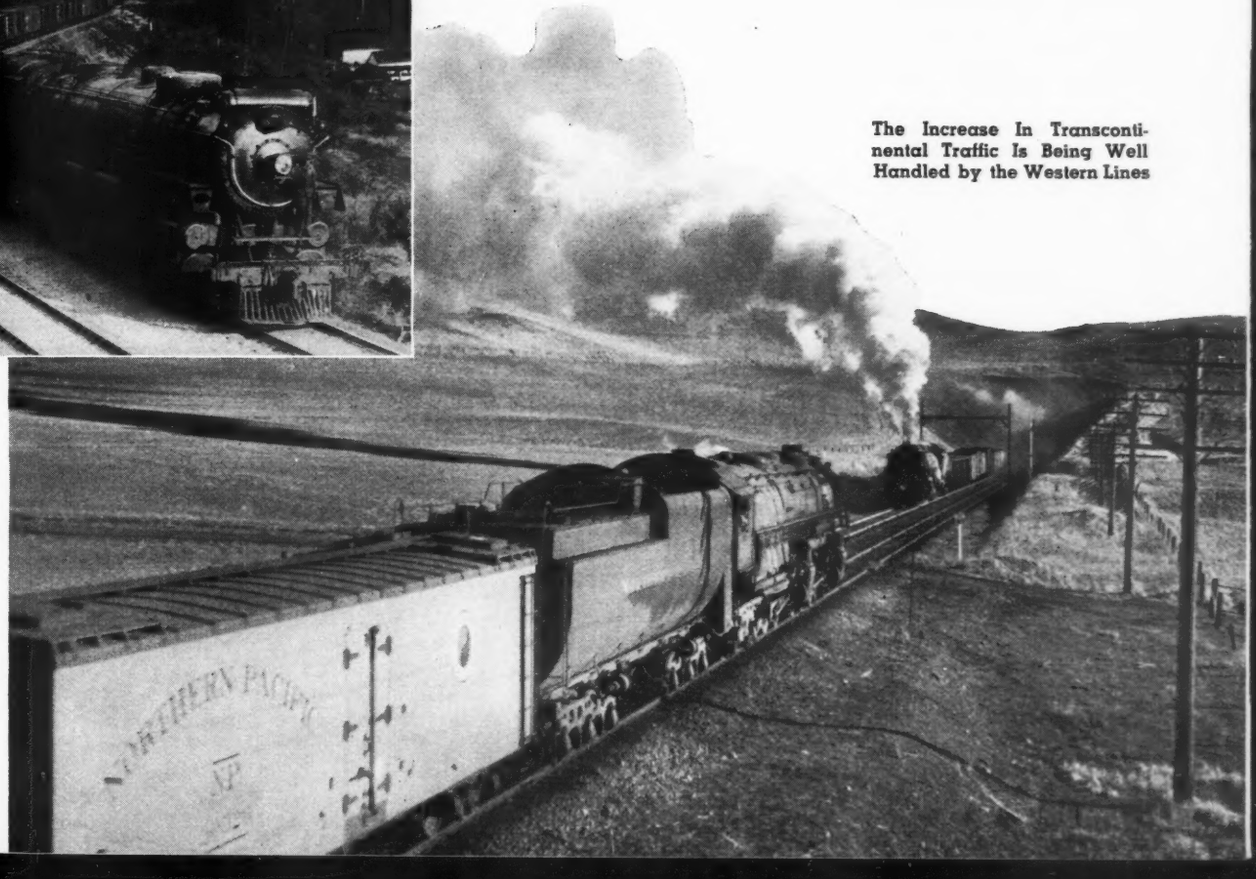
If other factors of warfare are equal, the nation which can produce and replenish its supplies of war material the fastest can overcome its less industrialized enemy. This continuous mass functioning of industry requires continuous functioning of mass transportation. In a nation such as ours, with 3,000 miles between seacoasts and 1,200 miles between national boundaries to the north and south, only the railroads can supply such mass transportation.

## It Can't Happen Here—Again

In 1916 the U. S. railways handled the heaviest freight traffic in their history up to that time and, in 1917, under private operation until the last week in the year, they handled nearly 9 per cent more. In 1918, under government operation, the ton-miles handled were less than 3 per cent more than in 1917, and the costs of handling the freight increased more than 50 per cent. In 1919, freight traffic was the same as in 1916, but it cost 86 per cent more to handle it—almost twice as much. This experiment in organized confusion—"Federal Control"—cost the taxpayers $1,600,000,000, without a single counterbalancing gain of any sort.

Not only was the increase in the traffic handled in 1918, under government operation, much less than the increase in 1917, under private operation, but the increase in 1917 would have been much greater except for various kinds of governmental interference and inefficiency in that year, resulting in unnecessary confusion and congestion. There was, for example, a deplorable lack of control of the right of government officials to demand priority for government shipments. Central, unified control was completely lacking and there was not even control within a single department. Then, too, with the priorities in a jumble, contractors who were building government projects ordered material long before they were able to receive and unload the cars. To make confusion worse confounded, manufacturers purchased raw materials in excessive quantities, with the result that the cars arrived in bunches, delaying unloading and diminishing the available car supply and terminal space. Added to all this was a lack of co-ordination between rail and overseas transportation, which glutted the ports with cars.

These were the things that caused as many as 200,-




**The Increase In Transcontinental Traffic Is Being Well Handled by the Western Lines**

**Co-Ordination Between the Railway Service, Harbor Operations and Ocean Shipping Is Keeping the Ports Clear of Congestion**

000 cars to stand still under load at one time. They will not happen again because, as a result of the lessons so painfully learned then, the means to prevent them has been worked out by the government, the shippers and railways. Comprehensive plans for the control of the issuance of those little pieces of paper—the priority tags—provide that they will not exercise their previous damaging influence on car movement. Through the joint activities of the Regional Shippers' Advisory Boards and the Car Service Division of the A. A. R., none of which were in existence in 1917, the shippers and the railways will co-operate in the handling and use of car supply. The machinery for controlling the movement and transshipping of traffic through our ports is already set up and has been functioning admirably for months. Finally, as the result of the great program of rehabilitation undertaken by the railways in 1923, at an expenditure of billions of dollars, and the current replenishment of rolling stock by huge equipment purchases, the railway plant is in much better condition than during the last war. These purchases are analyzed in detail elsewhere in this issue, but the fact that 165,793 freight cars and 1,113 locomotives have been bought by the railways in the 16 months ending April 30, 1941, is indicative of the extent to which the railways are preparing.

### J. J. Pelley Explains

President J. J. Pelley of the Association of American Railroads explained not long ago how the present railroad organization had met recent, and severe tests, under the new plan of operation. He said:

"The first test came in September and October, 1939, when railroad tonnage went up faster in a shorter time than it had ever done before. At the peak of the movement in October, even though the equipment repair program had not been completed, the railroads handled 55 per cent more than they had handled in May, and they did it without congestion or delay, with an average daily surplus of more than 60,000 cars.

"Unlike many other lines of business, railroads cannot go on a delayed delivery basis when the rush comes. They are expected, and rightly so, to meet the peaks—even though the peak movement comes for but three or four weeks in October of each year. The peak movement in 1940, which was slightly less than the peak in 1939, found us with an average daily surplus of 75,000 serviceable cars. What the peak of 1941 may be, I do not know, but when it comes in October we shall have on the railroads at least 150,000 more serviceable freight cars than we had in October, 1939—if it should develop that we have need for so many.

"The second test within the past year was in the movement of troops to and from the four army maneuver areas in August, 1940. One hundred and fifty thousand men, the number moved, does not sound like many men when compared with the four million under arms in 1918—but in 1918 the maximum movement of troops in the peak month of July averaged only a little more than 20,000 men a day, while in 1940 the railroads moved an average of nearly 40,000 men a day, and moved them in better fashion than they did in 1918.

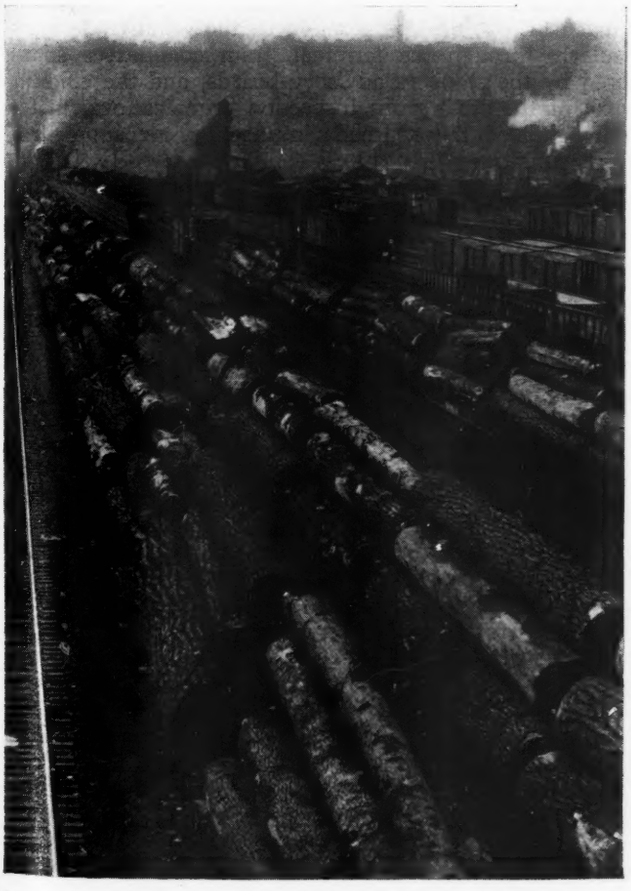
"This 1940 movement was not perfect, of course. There were lapses and failures, here and there, but on

the whole it was a successful demonstration of two things—the supreme usefulness of railroads in mass transportation, and the successful co-ordination between the government and the railroads, working through the Military Transportation Section of this Association.

"The third test which the railroads have met in the past 12 months is the movement of export freight through the Atlantic and Gulf ports. The export movement through the North Atlantic ports this year has averaged more than three-fourths as much as it was in the war year of 1918, while in the port of New York there have been months when the flow of freight for export equaled that of the same months in 1918. But so well has the movement been co-ordinated through the efforts of port authorities, shipping lines and railroads, acting through the Port Control Section of this Association, that there has been no sign of congestion or delay. The movement has been so smooth, in fact, and so apparently effortless, that it has completely failed to attract public attention.

"The 1940 railroad is not the same sort of thing as that of 1918. We still run trains on tracks, and that we shall always do, because only in trains on tracks is it possible to produce the low-cost, economical, universal mass transportation which this country must have. But the trains we run today are better trains, made up of larger cars and stronger cars, pulled by more efficient locomotives. These trains run on better tracks—heavier, stronger and tougher steel rails, laid on chemically treated ties, supported by better ballast. Curves have been straightened, grades reduced, bridges strengthened. Signals have been improved, shops have been bettered. Every element in railroad operation has gained from research, invention and investment in these last 20 years.

"So there are the twin reasons why we of the railroads can say with such confidence that the railroads are ready to do their part—we have better railroads, and better organization to get the best use out of them."



**Building at Cantonments, Arsenals and Other Defense Projects Involves a Huge Movement of Lumber**

### Opinion of Ralph Budd

Ralph Budd, president of the Chicago, Burlington & Quincy, and member of the Advisory Commission of the Council of National Defense, described the situation as follows in a recent address:

"The adaptability and elasticity of transportation facilities are in marked contrast with the special and often single purpose of a manufacturing plant. Also, transportation for defense is spread over the time consumed in the successive periods, first of construction, then of production, and in many instances, such as the building of cantonments and munition plants, the daily transportation load is greater during the period of construction than it is after their completion.

"The question naturally arises whether the transport agencies of the country will be able to provide, without interruption or limitation, all of the services that may be required currently. It is a question which has been discussed almost constantly for the last year. I have said on more than one occasion that transportation people must answer the question in a typically Yankee way by asking another, how much traffic are we to handle, and when and where are we to move the freight? I shall repeat again that it would seem rash to say that the railroads and other transportation agencies are equal to any and every conceivable task, or that they can handle all traffic that may be offered without knowing more of what its proportions may be. But if they can be kept informed a reasonable time in advance as to how much the volume will be increased, and by what kind of traffic, their performance of the last two years, together with new cars and locomotives and other improvements which have been made or are being made would give assurance of reliable and satisfactory service. Their ability in future to keep ahead of requirements must, of course, depend upon their knowing what traffic to prepare for, and also their being able to obtain new cars and locomotives and other essential materials as they will be needed."

### How Shippers Can Help

Mr. Budd has also emphasized five highly important ways in which shippers may co-operate to secure the desired result of uninterrupted railway transportation as follows:

**1. Give advance notice of requirements, but do not order cars placed for loading until commodities are ready to load.**

**2. Unload cars promptly on arrival and notify the railroad when an empty car is available.**

**3. Load cars to maximum journal carrying capacity or full visible capacity, whichever governs.**

**4. Remove all dunnage, blocking and rubbish from cars after unloading to permit immediate reuse and eliminate necessity of delay to cars for reconditioning.**

**5. In industries where a five-day work week is in effect, some plan should be worked out to provide at least a six-day basis for loading and unloading cars.**

In considering the adequacy of the railway plant for any demands that may be made upon it, it must be taken into account that, in 1917-18, with the exception of the Great Lakes, the railways supplied almost all of the transportation for the nation. Today, with the growth

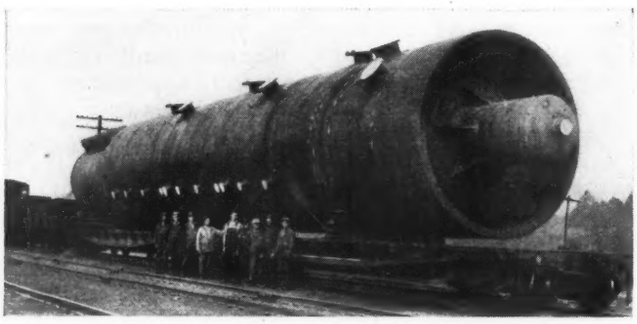
of inland waterways, highways, airways and pipe lines, even though these competing forms of transportation are subject to seasonal and other delays and interruptions to service, the railways are handling only about two-thirds of the freight transportation in this country. Yet, the increases in traffic resulting from the preparedness program will consist of freight moving in volume for long distances and that cannot stand delay, and the railways must be prepared to handle all of it, and accurate, long-range forecasting of possible carloadings must be obtained. The railways have canvassed every known source of information. They get copies of all War and Navy department orders and contracts and are interpreting these into terms of carloads. Problems such as the potential rail traffic involved in two million tons of new battleships are so interpreted and solved. The railways alone of all agencies of transportation cannot pick and choose. They must be ready and are ready to handle anything that is offered them to transport. Some of the thousands of details as to how this is done and an adequate car supply arranged for, are given in the following pages.

## Car Supply

In 1940, with the volume of box car traffic consistently in excess of the previous year, except for a brief period at the fall peak, car supply was maintained satisfactorily. Following the sharp upsurge of all traffic in the fall of 1939, loading demand in the first quarter of 1940 eased off slightly, although continuing above the same period of the previous year. Beginning in April, box car and other loading increased at rather more than the seasonal rate. While total loadings in the peak weeks of September and October were somewhat below expectations, box car traffic held up above normal expectations all through the final quarter of the year. The installation during the year of 33,252 new box cars assisted in protecting the heavy demands for high class large cubical capacity box cars. There were no box car shortages, but occasional tight situations developed for class "A" cars or specialized types of equipment which required remedial handling.

### Grain Cars

The annual grain movement always presents the heaviest single box car distribution problem. Last year unusual aspects of the winter wheat harvest caused unexpected complications. Not for more than a score of years has a crop gotten off to so discouraging a start, due to an extensive and lengthy drought in the middle west in the fall of 1939. From the first government report in April until July, the estimated crop jumped 30 per cent, and in the area of principal production—Kansas, Nebraska, Oklahoma and Texas—production jumped 68 per cent. More than half of this increase occurred after June 1. Late rains just before the harvest had a magical effect on production. In addition, government loans on a basis higher than the market price resulted in quickly filling country and sub-terminal storage facilities. The result was a brief period of car supply difficulty in a limited area, which was quickly alleviated by increased delivery of cars to the roads affected. All Southwestern grain storage facilities filled up rapidly and shortly reached a point of saturation. To aid in the emergency, about 1,000 box cars, unserviceable for general traffic, were leased by railroads in the winter wheat territory for temporary grain storage.



**The Railways' Ability to Handle Heavy, Bulky Shipments Is Particularly Important to Defense Traffic**

In the principal spring wheat area—Minnesota, the Dakotas, and Montana—the crop was estimated at about 5 per cent in excess of 1939, but loadings ran about 15 per cent higher. Here also, the government loan program complicated the rail movement to a considerable extent. At the beginning some apprehension was caused by complaints from country elevators, but the difficulty was found to be due to their having undertaken to store grain in abnormal volume because of requirements of the government for storage space. The railroads increased switching service and car supply to meet the needs. Terminal elevator public storage at Duluth, Superior, and later at Minneapolis, approached exhaustion, and here again the railroads found it possible to assist in the emergency by supplying nearly 800 unserviceable box cars for temporary grain storage.

For the second consecutive year, new high records were established at Minneapolis for the receipt and unloading of grain. This indicated appreciation by the grain trade of the necessity for the prompt handling of freight cars to insure maximum utilization. At all terminal markets, the co-operation of the grain trade, particularly through the terminal grain committees sponsored by the shippers advisory boards, and the efficient work of the state grain inspection organizations, materially assisted the railroads in meeting car supply requirements.

The recurring problem of an adequate supply of ventilated cars in the southeast for the seasonal movement of watermelons, potatoes, etc., also required more than ordinary attention because of the heavier movement. The total loading of watermelons was 14,137 cars, compared with 11,179 in 1939. There were no instances of car shortage, however, despite a further slight decrease in ventilated car ownership.

### Government Orders

The inauguration by the government of a huge program of cantonment and camp construction; and the constantly accelerating program of industrial plant expansion, produced a marked increase in car requirements, particularly during the last quarter of the year. This was particularly noticeable with respect to lumber in the Pacific Northwest, which traffic requires cars of large cubic capacity.

During 1940 the Government placed a series of orders with automobile plants for various types and sizes of army trucks. These orders aggregate close to 150,000 units and range from half-ton to ten-ton capacities. Production on these orders began in the early fall, with shipments scheduled at an increasing rate well into the fall of 1941. Many of the smaller units require automobile device cars 40 and 50 ft. long. As the size increases, requirements extend to 40 ft. end door cars and the larger units require 50 ft. cars with extra wide end doors.

At No Time Has Ore Transportation Been of More Paramount Importance

Special measures were required to provide the necessary car supply in connection with the production of the larger units loading two to a 50 ft. end-door car and those units requiring 50 ft. device-equipped cars.

To meet these demands, the Car Service division of the A. A. R., initiated special measures to insure prompt return, particularly of 50 ft. cars, to the automobile producing area. As the production of government trucks is expected to continue at an even heavier rate during the spring and summer months of 1941, these same measures will necessarily be continued in effect to insure that there may be no failure to protect these shipments fully.

The demand for cars to protect commercial automobile loading, both in Michigan and in outside assembly points, has been heavy and promises to continue so during 1941. The shipments during the first four months of this year and in the last quarter of 1940 were particularly heavy, the increases, as compared with the previous year, ranging up to 60 per cent. Shipments requiring device cars from the Michigan area during the last few months have exceeded all recent records. January, 1941, was the highest individual month for many years.

With the steel plants throughout the country working at capacity, the demand for open top equipment has also been unusually heavy. During the early part of 1940 this demand was largely to protect the increased movement to the Canadian and United States ports incident to the exportation of these products to United Kingdom destinations. Since our own program for national defense has matured, the distribution has become more varied and an increased percentage of the production is now moving to United States destinations. The demand for long gondolas (61-65 ft. in length) has been particularly heavy. These demands have been fully met, largely through the splendid co-operation given by shippers and individual railroads in the utilization of equipment.

### Military Transportation

Another measure of vital importance to the adequate functioning of the railways in national defense has been the creation of the Military Transportation Section of the Car Service division, at the request of the Quartermaster General of the United States Army to function as a liaison between the rail carriers and the military establishment, including the Army, Navy, Marine Corps and Civilian Conservation Corps. The primary function of the section is to render assistance to the military in the movement of troops and supplies and to give counsel in other matters pertaining to rail transportation in which its assistance is requested. Under this plan of organization, new camps have been constructed, Army maneuvers held, mobilization of all of the National Guard effected and induction of a selectee Army accomplished without disturbing the normal flow of commercial business. This accomplishment was not the result of a combination of fortunate circumstances, but of careful planning on the part of the rail carriers, first in anticipating demands and then in planning their execution.

Over 200 camp construction projects have been undertaken since the early fall of 1940. To meet the transportation needs of these projects, an arrangement has been set up whereby, when contracts are let on a project, a list of the successful bidders is furnished the Military Transportation Section by the construction quartermaster, which, in turn, is given to the Car Service division, and by it forwarded to the district managers in the territory of origin, so that they can interview shippers of the material with regard to car supply. This is followed up by the Car Service division at the project to keep currently advised of receipts and releases and any tendency to accumulation is handled immediately with the constructing quartermaster to secure a speeding-up in releases of cars. More than 75,000 carloads of material have been handled in this manner on these projects to date, all without confusion, accumulation, congestion or car shortage.

## Port Traffic

When the present struggle in Europe began and it was apparent that shipping conditions and trade routes would be disturbed because of it, the roads serving the Atlantic and Gulf ports took steps to avoid the situation which prevailed during the World War. Primarily responsible for that situation was the lack of proper organization in the Army and Navy in the co-ordination of purchases and transportation. Then too, there was no complete organization of the railroads or shippers through which co-operative action could be exercised to prevent the use of cars for storage purposes. These defects have been eliminated. Through the regulations of the Munitions Board, the Army and Navy have provided that, in the movement of material for the government, cars must not be loaded until it is definitely known that they can be unloaded promptly at destination. The Association and the new organization are much broader in scope.

The Car Service Division, together with its 13 district organizations, has its finger on the pulse of traffic at all

times. The representatives of the Shippers Advisory Boards have been and are of inestimable value in assisting the railroads in furnishing satisfactory transportation service.

All that was necessary, therefore, to take care of this new situation which developed, was to extend the organization of the Car Service Division so that it might keep more closely in touch with the changing conditions at the seaboard and take such steps from time to time as might be necessary to prevent congestion. Accordingly, the board of directors of the Association of American Railroads authorized the appointment of a manager of port traffic in November, 1939, for this purpose. Reports were instituted so that the current situation at all ports might be known. In turn, the manager of port traffic issues statements twice weekly showing the situation as to cars (or tons) handled, separated as to the more important commodities; grain in tidewater elevators, freight in storage and storage facilities available. Comparisons are made with the situation for the same period of the previous year and all cars on hand over 15 days are listed once a week. An advisory committee, consisting of the foreign freight traffic officers of roads serving North Atlantic ports, has been formed, which meets upon the call of the manager. Local committees have also been set up at several ports where such action seemed advisable.

At New York, a daily report is prepared by the secretary of the General Managers' Association (which includes all railroads operating within the New York area) daily, showing the number of cars of each type of traffic handled, and the number of railroad lighters delayed by steamship companies over 48 hr. Each Friday, a statement showing cars on hand for unloading, 15 days or more, is furnished. A joint committee, made up of representatives of steamship lines and railroad lighterage agents, was formed under the direction of the Maritime Association of New York, the General Managers' Association of New York and the Association of American Railroads, with E. J. Karr, vice-president, Calmar Steamship Corporation, as chairman.

The results of the work of these committees have been very helpful in correcting situations which might easily have led to congestion or to unsatisfactory operating conditions.

At some ports, the facilities are such that it is not always possible to hold a proper "bank" of loaded cars to accommodate the volume of daily unloadings. Recognizing the importance, not to say the necessity, of such a "bank" being maintained, particularly in the case of war materials, an item has been incorporated in the tariffs of all roads serving Atlantic and Gulf ports, providing that export or coastal freight may be held out of a port and the same rules, regulations and charges made applicable thereto as would be the case if the cars were held at the port itself.

Although there have been a series of interruptions to the flow of export traffic because of the war in Europe—first to Denmark, then in succession to Norway, Holland, Belgium, Italy and France, these have caused no embarrassment to the movement of other traffic at American ports. Each of these interruptions made it necessary, however, for a considerable volume of freight in transit at Atlantic and Gulf ports to be stored or diverted to other destinations.

In its supervision of port traffic, the Association recognized the fact that each railroad, as to its own operation, has the ability to and will regulate its service so that congestion will be avoided. They do an excellent job to the extent of their individual ability, but when more than one railroad is involved or other transportation agencies are brought into the picture, co-ordination of their efforts is needed to produce satisfactory results. The office of manager of port traffic has furnished a very convenient medium through which such co-ordination has been made possible.

The average unloading of export freight (exclusive of grain and coal) at Atlantic and Gulf ports during the year 1940 approximated 1,450 cars daily and the number of cars on hand was about 10,000. In other words, the "bank" of freight held in cars at the ports has averaged only about five days' supply. Up to September 1, the number of cars held 15 days or more at North Atlantic ports was regularly less than 10 per cent of the total; since then, because of interruptions to boat schedules, this percentage has increased somewhat. It is currently about 30 per cent. There have been very few cars held over 15 days at South Atlantic and Gulf ports.

The number of cars (other than grain and coal) handled in 1940 at Atlantic and Gulf ports was approxi-

**The Railways Have Lent Every Assistance in Constructing Government Railways**

**The Military Railway Service Is Important—A Company of Illinois Central Combat Engineers Are Already In Camp**

mately 67 per cent greater than the number handled in 1939. At some of the larger ports the increase was more than 150 per cent. Yet, there has been no congestion and it has not been necessary to place a control over the movement into any port except in one instance—at a Gulf port and for a temporary period only, because of the limited capacity of a grain elevator.

In some recent months, the movement has approximated two-thirds of the peak volume of the World War; yet there has been no time when more freight could not have been handled at practically every port. This is in striking contrast to the situation during the World War, when practically all North Atlantic ports were embargoed and all traffic moved on permit, and at one time, permits were outstanding for over 20,000 cars to be moved through the Port of New York alone. The results effectively demonstrate the value of co-operation and the success of the effort of the railroads to maintain their plant in a "liquid" condition through such co-operation, rather than through the placement of embargoes and the imposition of penalty charges for the use of cars or other facilities.

## Railway Military Co-operation

The railways have been in complete co-operation with military and naval authorities and, in many cases, have also supplied rail and other materials from their own stocks to military railways under construction at camps, powder plants and other defense projects. In addition, railway roadmasters and in at least one case a railway chief engineer have assisted and served as consultants in building military railways and track lay-outs. Blue prints and plans for rolling stock were made available to speed deliveries of U. S. Army and Navy locomotives and cars, and purchasing officers have been lent to the Services to aid in getting vital supplies promptly.

All the railways serving defense projects have added switchers to take care of the additional business and many of them are operating their fast freights in two or more sections to accommodate the additional business. Specifically, the Atlantic Coast Line has established a number of shuttle freight trains to serve defense projects along its lines, for example: Fayetteville, N. C., to Fort Junction, en route to Fort Bragg; Wilmington, N. C., to Holly Ridge, with traffic for Camp Davis; Columbia, S. C., and Sims, for Fort Jackson; and Jacksonville, Fla., and Yukon, for the Southeastern Naval Air Base. Both the Canadian National and the Canadian Pacific have installed numerous additional services and have rendered aid otherwise under war conditions, but the restrictions of censorship make a detailed explanation impossible. The Central Vermont, a C. N. subsidiary, serves Fort Ethan Allen, Vt., via Essex Junction, Vt.

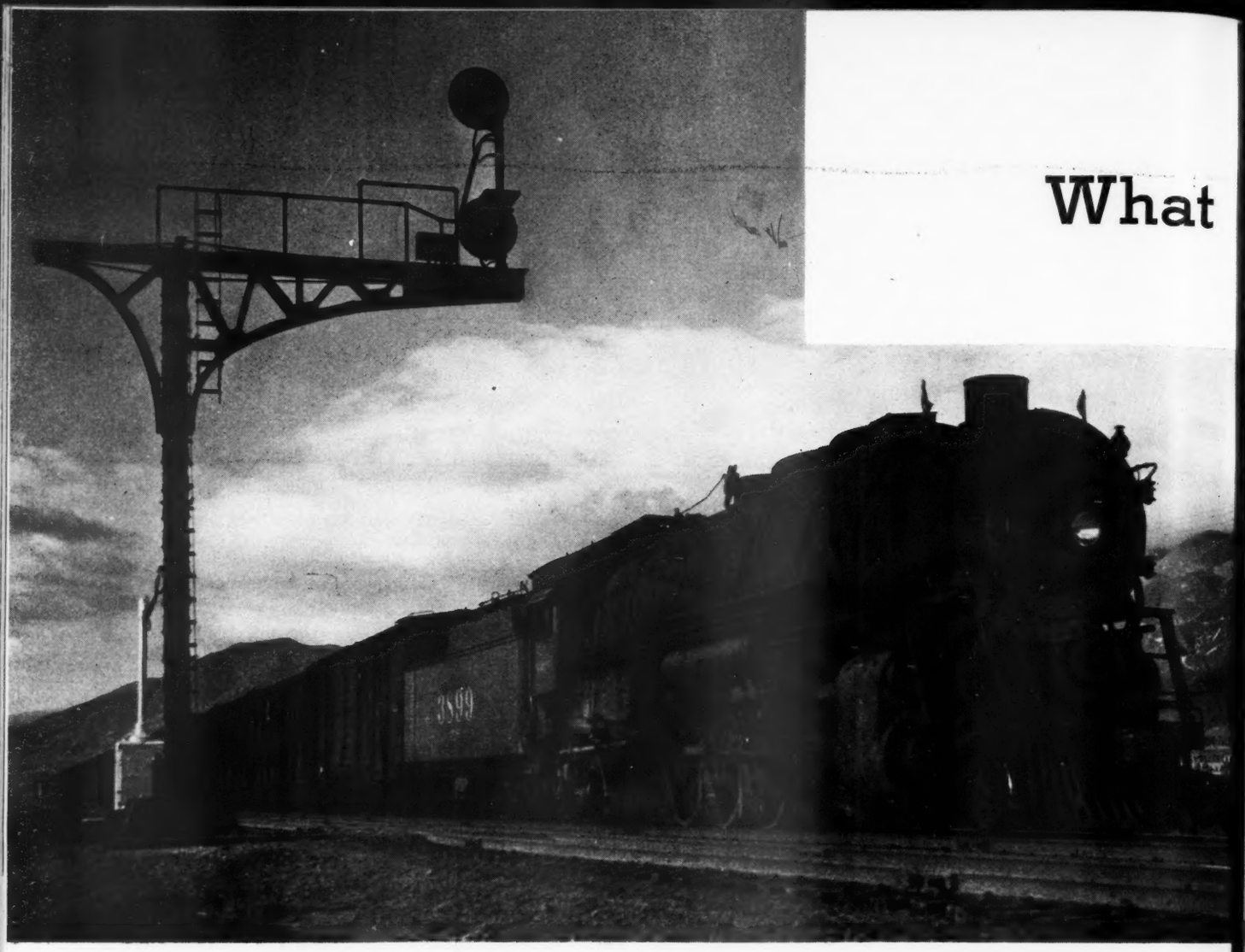
The C. R. I. & P. established a new traffic office in Washington, D. C., on July 15, 1940, to maintain closer contact and lend more direct assistance to various federal agencies in handling traffic and transportation problems. This road has been active in the provision of special equipment to handle cement for the defense projects. The Illinois Central has lent several of its section and construction foremen to the government for varying periods to aid in construction. The industrial department of the D. L. & W. is co-operating closely with government and civic authorities to find locations for new plants under the defense program. The Lehigh Valley has been called upon to supply the needs of a super-drydock and naval supply depot, costing $16,500,000 and an airplane plant costing $18,000,000 on its lines, as well as serving the increased needs of its steel mills and other industries.

The L. & N. built the necessary track, including two bridges, to serve the Wolf Creek Ordnance plant at Milan, Tenn., and operates shuttle service between Paris and Milan. Sidings of considerable length have also been built to handle construction materials for a naval ordnance plant at Louisville and a shell plant near Gadsden, Ala. The M-K-T established a new station at Weldon Spring, Mo., to serve a large T. N. T. plant there, involving also the construction of elaborate loading and unloading facilities. The M. P. serves a large number of military bases and, up to April 1, handled 25,563 carloads to these camps. The New Haven has handled 6,000 carloads of materials to Camp Edwards at North Falmouth, Mass., and built 10 miles of trackage there. Other construction projects served are a naval air base and an army airport in Rhode Island. The expanded needs of the many shipbuilding companies on the line have also been taken care of.

The N. & W. has provided much additional train service to the many defense projects on its lines, particularly in the Hampton Roads area. The Reading and the Lehigh & New England, serving important cement areas have established special services to give this all-important construction material faster movement. The St. L.-S. F. lent the services of its chief engineer and other construction experts in the building of a 20-mile line in a difficult terrain. The Seaboard has established additional services to take care of projects at Camp Blanding, Fla., Miami and Tallahassee, Ft. Benning, Ga., Columbia, S. C., and Charleston and Richmond-Hopewell, Va.

The Southern, which has numerous projects on its lines, has constructed many additional leads and much

*(Continued on page 950)*



# What

THE schedule on which a growing number of freight trains operate would have been considered very respectable for passenger trains a few years ago. Two factors are responsible for these greatly accelerated movements. The first is the faster speeds at which the trains move; the second is the reduction of interferences with the continuous movement of trains once they leave the terminal. For faster running speeds changes in motive power are primarily responsible. To the reduction of interferences with continuous movement improvements in locomotives which increase their reliability and reduce the need for frequent service stops are making a big contribution.

The first requirement for moving heavy trains at high speeds is high horsepower capacity. In the steam locomotive this means large boiler capacity. The first measure for increasing boiler capacity was the enlargement of the dimensions and weight of the boiler. This led to the adoption of four-wheel leading and trailing trucks to carry the additional weight; indeed, the demand for more boiler capacity has gone so far that six-wheel carrying trucks are being applied on a number of locomotives now being built for freight service as well as passenger.

Recent boiler performances, however, have indicated clearly that the latent capacity which for many years has been built into locomotive boilers has remained locked up within them.

Fifteen years ago capacity tests produced 15 to 17 lb. of steam per hr. per sq. ft. of evaporative heating surface. Today, between 21 and 22 lb. of steam per hr. is being produced per sq. ft. of evaporative heating surface. Contributing to these results are the much more general installation of mechanical stokers, refinements in the proportions of the boiler itself, as well as improvements in other locomotive proportions affecting boiler performance. Thus, the effective output of a boiler of given dimensions and weight has been stepped up between one-quarter and one-third.

Contributing to such results are front-end improvements. Poorly designed or poorly adjusted front ends are effective shackles on the latent capacity of many locomotive boilers.

The tests of the Pennsylvania poppet-valve locomotive No. 5399, with valves and steam passages designed to remove the restrictions in steam flow between the boiler and cylinders, are a demonstration of latent capacity seldom given an opportunity for service. This locomotive reached a maximum hourly output of 21 lb. of steam per sq. ft. of evaporative heating surface. It also showed a still further increase in locomotive capacity because of improvement of the steam distribution in the cylinders. The steam required to develop a horsepower-hour was reduced 13.8 per cent at 40 miles an hour and nearly 32 per cent at 100 miles an hour.

These tests were run on a passenger locomotive with 80-in. driving wheels. But, applied to a locomotive with the smaller driving-wheel diameter customarily employed in freight service, the improvements in capacity and economy fall within the range of speeds at which locomotives are expected to operate on present-day accelerated freight-train schedules.

The idea that it was possible to operate the steam locomotive over more than a single-crew district without a

# Motive Power for Modern Freight Trains?

Improved capacity for sustained performance possessed by the modern steam locomotives and by the new Diesel-electrics

trip to the terminal for servicing and repairs prevailed universally until about 20 years ago. Since then, interest in the developments of longer runs has been widespread and much has been done in exploiting the capacity of the locomotive for service over prolonged periods.

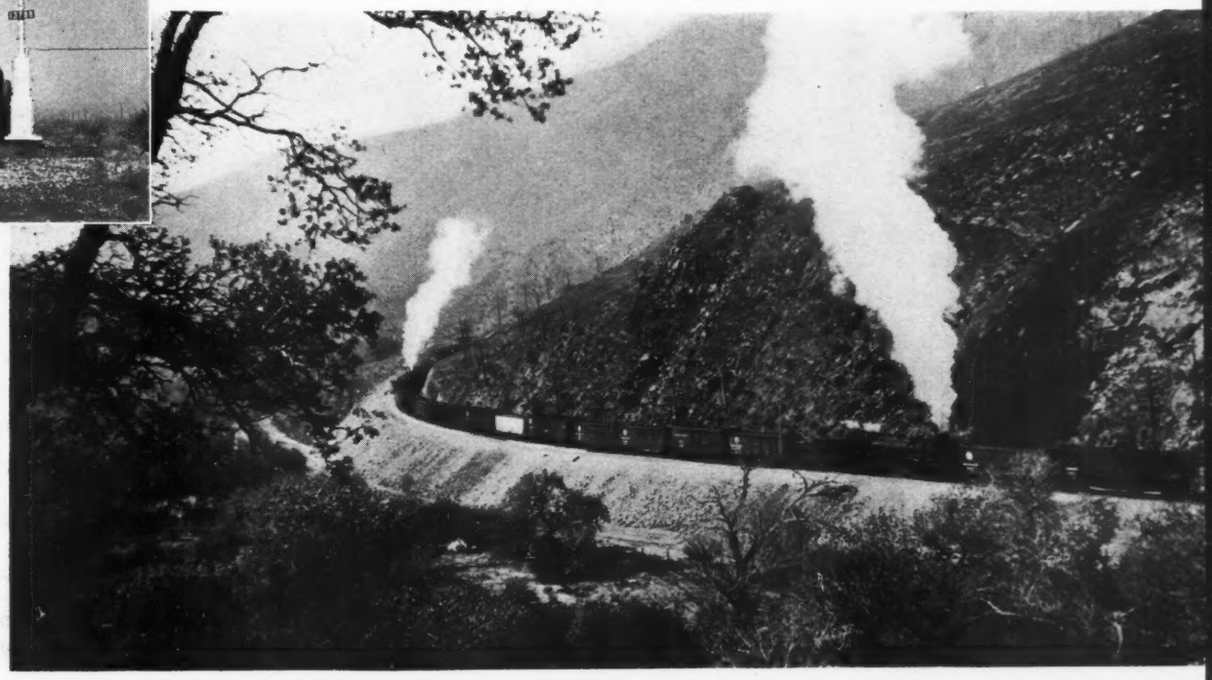
In the meantime, the capacity of the locomotive itself for increased sustained service has been improved. Among the factors which have contributed to these improvements in the reliability of the locomotive are roller bearings. The roller bearing demonstrated the value of precision fits and close tolerances for prolonging the life of all of the moving parts of the locomotive, and from the lesson has come a generally higher standard of locomotive construction and maintenance.

The rigid foundation for the running and driving gear afforded by the bed casting has been a factor in greatly increasing the mileage which locomotives can make between shoppings. Mileages of well over 200,000 between class repairs are not uncommon with modern steam locomotives in freight service. Few locomotives built 15 or 20 years ago can stay out of the shop much more than sixty to seventy thousand miles.

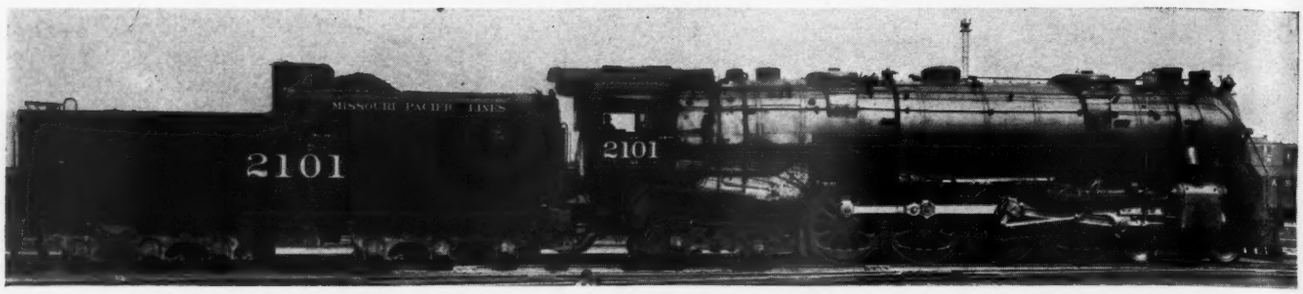
Another mechanical factor which has affected the reliability as well as the capacity of the locomotive for higher speeds is the general improvement in counterbalancing. The use of higher-strength materials by which the weights of reciprocating parts have been reduced and more careful attention to the determination of the amount and distribution of the counterbalance weights have greatly reduced the wear and tear of the locomotive on the track as well as within itself. It is no longer necessary to consider limiting the top speed of a steam locomotive according to the old rule of approximately one mile an hour per inch of driving-wheel diameter. Modern locomotives, either freight or passenger, are good for at least 1.25 miles an hour per inch of driving-wheel diameter.

In the days when 100 miles was a day's work for the locomotives and intermediate stops were frequent, manual lubrication of the valve gear, hubs, shoes and wedges, and guides from the long-spout oil can was adequate. As runs have grown longer and stops less frequent, however, the application of mechanical lubrication to all these bearings has spread rapidly. This has been a big factor in increasing the reliability of the steam

(Above) Southern Pacific Coal Burner Entering a Single-Track Block Near El Paso, Tex.



(Right) Steam Power Used in Helper Service Over the Mountains

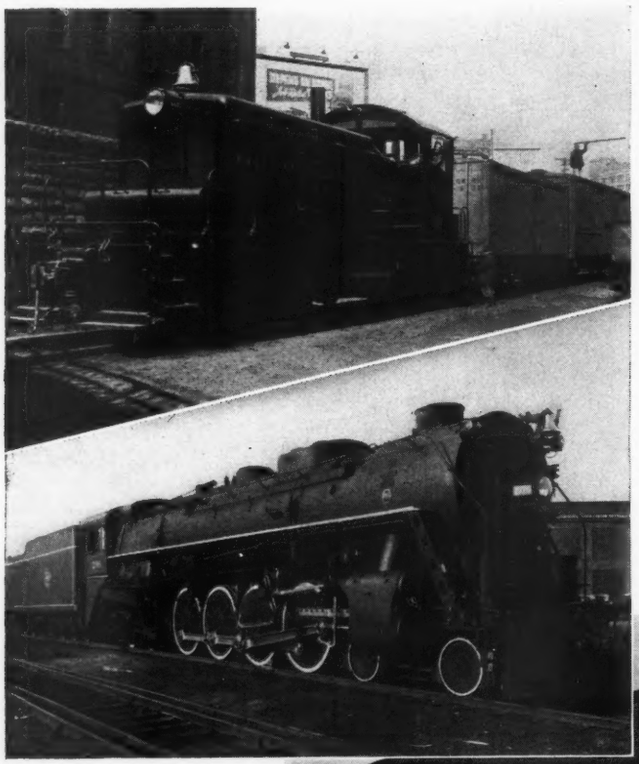



**Large Locomotive Rebuilt at the Sedalia, Mo., Shops of the Missouri Pacific for High-Speed Freight Service**

locomotive and in the reduction of maintenance resulting from wear.

Perhaps the most widespread improvement in the capacity of the locomotive to remain in service for sustained periods without interruption has been the chemical treatment of boiler feedwater. Conditions have so changed in this respect that it is becoming a serious question whether the present I. C. C. requirement of a boiler wash at least once every 30 days is universally justified.

One of the weaknesses of the steam locomotive is the frequency of its stops for coal and water. The number of these stops has been greatly reduced on some roads by increasing the fuel- and water-carrying capacity. In the case of recently built locomotives the tender has been made big enough to accommodate such increases. The limitations fixed by small tenders on older locomotives have been reduced by supplementing the tender with a water car. The tender of the recently built 4-8-2 type locomotives of the New York Central is an example of rational adjustment of the fuel and water capacities to produce the greatest freedom from delays at fuel and water stops under a specific set of conditions. Water is sacrificed to provide a coal capacity of 43 tons because the water supply can be replenished from track pans en route.



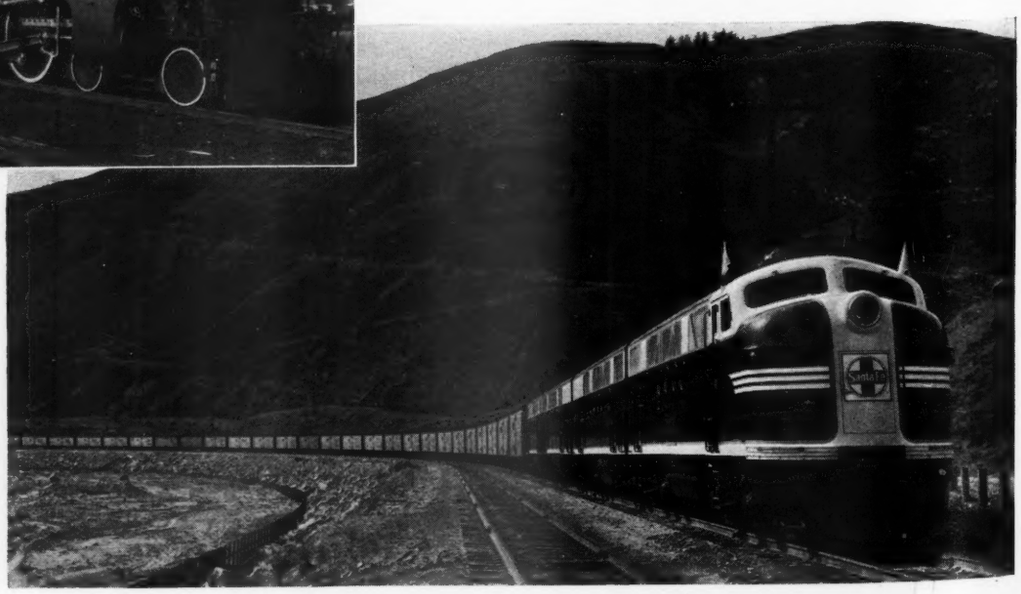
**(Above) Modern Power Which Helps the Milwaukee Serve Shippers**

### What of the Diesel-Electric Locomotive?

The recitation of the old limitations on uninterrupted service which have been partially lifted from the steam locomotive is, in a measure, a catalogue of its weaknesses in comparison with the Diesel-electric locomotive. The horsepower capacity of the Diesel is not limited by the power which can be built into a single power generating unit. It has no counterbalance problem. Fuel and water supplies sufficient for long runs can be carried. It has no fires to clean and, within the life of engine crank-shaft bearings, it can be kept in repair during scheduled layovers. These are all points which appeal strongly to the transportation department, whose dream is trains which move with clockwork regularity and precision.

A locomotive with such operating appeal will find a place in freight service as, in fact, it has already done.

(*Continued on page 950*)



**(Right) 5,400-Hp. Diesel Freight Locomotive in Service on the Santa Fe**

Freight Train Moving Through the Western Mountains on the Santa Fe

# Better Freight Cars to Serve Shippers

MECHANICAL developments in freight cars, including new materials, new designs and improved construction details play an important role in adapting this class of equipment to render satisfactory service at modern high operating speeds, equivalent to speeds formerly encountered only in fast passenger-train schedules. While practically all of the improvements made in freight cars during the last year have been confined to refinements in designs and specialty details that were already quite well worked out in principle, as described in the last Freight Progress issue, the importance of these improvements in the aggregate should not be under-estimated, for they constitute an impressive contribution to the modern freight car, enabling it to give maximum service to the shipper at minimum, or greatly reduced, operating and maintenance costs to the railroads.

One of the most important developments in the last 12 months, bearing directly on the safe and satisfactory operation of freight train cars at high speeds has been the continuation and expansion of high-speed truck tests. While no formal comparative tests have been conducted by the Association of American Railroads, several of the new truck designs, referred to in the last Freight Progress issue, have been installed in sufficient quantities on a number of railroads to give a convincing demonstration of their adaptability to the new service requirements. Among these, three new Pennsylvania truck designs have been tested under service conditions on that railroad, although the test results are still to be made available.

In addition, the American Steel Foundries has conducted more than 23,000 miles of road tests on the Chicago, Milwaukee, St. Paul & Pacific and the Missouri Pacific, using a special test train of cars, including two all-steel A. A. R. standard 50-ton box cars scientifically equipped to indicate and record detailed truck action in actual service at high operating speeds. In these test runs, speeds of over 90 miles an hour were reached consistently and the effort was made to have at least 25 per cent of each run made at 85 miles an hour or over. The results of these tests also are not yet sufficiently far advanced to permit formulating definite conclusions, but they hold great promise for still further improvements, not only in the design of high-speed trucks for new cars but in revised spring suspensions, applicable to the thousands of conventional trucks now in service and adapted to make them ride smoother at high speeds. Really phenomenal improvements in riding properties have been effected in some of the experimental designs tested and the current problem is how to make these improvements commercially available—in other words,

Busy Freight Yards on the Norfolk & Western at Roanoke, Va.

how to simplify and reduce their cost to a point where they can be widely installed and thus benefit large numbers of shippers, as well as railroad and private car companies.

### Car Building Methods and Materials

In general, the car manufacturers have perfected their construction practices with reference particularly to improvements in the unit system of car assembly and the increased use of modern welding machinery and welding technic, thus facilitating further reductions in the weight and cost of car construction, as well as providing moisture-proof joints and potentially longer service life. An examination of the table of new car installations indicates that, particularly in recent months, less emphasis has been placed on special lightweight car designs than on those which closely approximate the A. A. R. standard cars in order to secure quick deliveries. In other words, the tendency of the railroads has been to order cars from both manufacturers and from company shops, which can be fabricated and put through the assembly lines without the delay of checking or developing new engineering designs. These new cars of all types, however, are built to stand up under heavy, fast and nearly constant service. With the prospects of new freight cars built in 1941 being supplemented by an additional ownership of 120,000 new cars in 1942 and 150,000 more cars in 1943, as recommended recently by the A. A. R., this new equipment will be an important factor in handling the nation's freight traffic and will, in reality, form a second line of defense in the present emergency.

In the field of car materials, steel is of pre-eminent importance and alloy steels have been developed with superior properties as regards unit strength, ductility and corrosion resistance. Together with welded construction, they make possible the modern lightweight freight car, with all that it means in the way of improved service to shippers and railroads alike. The present prospects are, however, that fewer special alloy steels will be available for freight-car construction in the coming months and, in fact, the steel needs of the railroads and the car builders will require that they be given a favorable position on the government's priority list, if enough plain carbon steel is secured for the extensive freight-car building and repair programs now being contemplated.

Similar conditions, only greatly accentuated, exist with respect to the use of aluminum and aluminum alloys for either passenger or freight-car construction during the period of the present emergency. That industry is exerting strenuous efforts to increase its productive capacity and has already made real progress towards boosting the output of new metal to sixty million pounds a month, or about twice the average monthly output in 1939. Rolling capacity has been stepped up 250 per cent in the case of wire, rod, bar and shapes, and fabrication capacity has been very greatly increased by practically doubling the number of hammers, presses and upsetting machine installations since the first of the year. In spite of this notably increased output, recent press reports state that all aluminum made in this country in 1942 will be required for defense needs. The aluminum industry urges patience on the part of regular users of this metal and says that they will not be required to get along without it one minute longer than absolutely necessary. In the meantime, experience is being accumulated with the limited number of aluminum freight cars and car parts now in service, so that when the metal and its strong alloys are once more available for car construction, economic applications can be made quickly.

Another material which has been still further improved and become of increasing importance in the construction of freight equipment such as box and refrigerator cars is plywood, which is being used quite widely as a lining to protect lading from cinders and moisture damage and also, in some instances, for entire car bodies, exclusive of the steel frames. This material, in its best form, is an engineered product, designed to meet varying strength and other requirements and hence well adapted to increase the potential serviceability of box cars, automobile cars, refrigerator cars, etc.

The vital importance of car wheels in moving the

A. S. F. Truck Test Train in Operation Between Little Rock and Bald Knob, Ark., on the Missouri Pacific

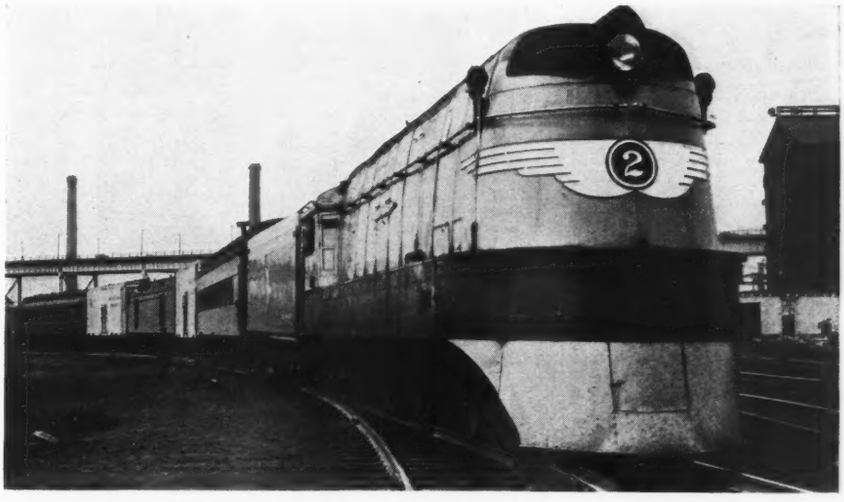
nation's freight traffic is generally admitted, and undoubtedly most shippers look on the car wheel as a finished product, development over the years to a point where it may be expected to and, in fact, does give highly reliable service. It is difficult, therefore, for the average layman to realize that additional improvements are being constantly made in freight car wheels, owing to intensive engineering and metallurgical research and the keen analysis and rechecking of foundry and shop production methods. These improvements in manufacturing methods, as regards chilled car wheels, include pre-eminently standardized cupola practice, more accurate chill control, almost 100 per cent installation of unit-type annealing pits and inspection methods designed to assure constantly higher standards of uniformity and quality. In a 10-year period, potential wheel life is said to have been increased 50 per cent and guaranteed service more than doubled. It is estimated that about 14,000,000 chilled car wheels are now in service on railroads in this country.

Lightweight one-wear wrought-steel wheels for freight service also have been steadily improved as a result of exhaustive laboratory tests and research, with attendant refinements in the manufacturing and cooling process. Starting from scratch about 16 years ago, the one-wear wrought-steel wheel made relatively slow progress for the first decade, but now at least 1½ million of these wheels are in use under freight cars owned by 88 railroads and 66 private car lines. Highly favorable records of reliability and long wheel service life have been established, and this type of wheel is now being used on a great majority of the new 70-ton cars and on about half of all new freight cars. The lightweight, wrought-steel wheel, therefore, is a definite factor in helping the railroads meet shipper requirements satisfactorily. A recent development of special interest from an economy standpoint is the possibility, said to be thoroughly demonstrated, that one-wear wrought steel wheels may be turned once and thus increase their life approximately 50 per cent without any sacrifice of safety.

The quickening tempo of the national defense program necessitates prompt and safe freight shipments moving at train speeds greatly in excess of those formerly considered entirely satisfactory. In addition, the pressure to get trains through freight yards in the shortest practicable time has tended to speed up switching operations with frequent increase in handling shocks. Efficient modern draft gears have been designed by the manufacturers to cushion these buffing impacts and starting stresses, transmitting the forces from the cast steel couplers through to the car underframes without damaging either, unless the impact speeds are excessive. By periodic inspection and maintenance of draft gears when the cars are on the repair tracks, a number of roads are doing what they can to make sure that draft gears which have been in service a number of years on their own equipment retain most of their efficiency and continue to function effectively.

Vertical shocks incident to high speed, irregularities in the track and other causes are cushioned by the truck springs, and various types of friction bolster springs or spring snubbers are installed to prevent the build-up of periodic vibrations at critical speeds of about 45 miles an hour with fully-loaded cars. In general, spring snubbing devices have demonstrated their ability to reduce shocks to both lading and cars and hence, at relatively small cost, render exceptionally valuable service to shippers and railroads alike.

Informal tests, conducted during the last 12 months by one of the car builders, showed the excessive amplitude of vibrations set up in various parts of car structures when passing through critical speeds without spring snubber protection. This condition was particularly marked in the case of lightweight cars which have strong but relatively flexible steel bodies, the amplitude of some of the vibrations reaching a maximum of ⅜ in. with a periodicity of 240 per min., and easily imaginable results on the car structure. The application of spring snubbers is said to have been effective in bringing these vibrations within reasonable limits and hence definitely prolonging car life.




**A. S. F. Freight Truck Test Train Hauled by Modern Passenger Locomotive for High-Speed Runs on the Milwaukee**

Other features and details of truck construction have been given equally intensive study by railroads and specialty manufacturers with a view to securing maximum satisfaction and reliability in service. Journal bearings, for example, as a result of research, are now being made of alloy bronzes which are much stronger than those formerly used and have a longer service life, thus contributing substantially to the faster movement of cars, fewer delays and improved service to shippers. Along this line, journal packing reclamation and the reconditioning of car lubricating oil are important. Unquestionably, the extent to which the railroads have adhered to Interchange Rule 66 has been an important factor in reducing troublesome hot boxes, and the concentrated efforts of the packing service companies and of some railroads to turn out reclaimed journal packing which exceeds the A. A. R. specified requirements have had a highly favorable effect in reducing hot boxes, expensive car setouts, wheel changes, axle turning, etc.

When it comes to heavy car repair and rebuilding pro-

# Open-Top and Box Cars in Which New Structural Materials, New Methods of Fabrication, or Special Features of Design Have Been Used to Reduce Weight

| Purchaser | No. cars | Class | Capacity, lb. Nominal | Capacity, lb. Load limit | Length ft. | Length in. | Features of construction effecting weight reduction* | Weight lb. | Year ordered | Builder |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum Ore Co. | 10 | Hopper | 140,000 | 171,100 | 41 | 11 | F | 38,900 | 1931 | Canton Car Co. |
| American Car & Fdry. Co. | 1 | Box | 100,000 | 131,500 | 40 | 6 | A-C | 37,500 | 1938 | Co. shops |
| Atlantic Coast Line | 500 | Hopper | 100,000 | 127,800 | 30 | 11 | D | 41,200 | 1940 | Bethlehem |
| Baltimore & Ohio | 1 | Hopper | 190,000 | 193,200 | 41 | 3 | C | 57,840 | 1929 | Co. shops |
| | 1 | Box | 100,000 | 126,300 | 40 | 3 | E | 42,700 | 1934 | Co. shops |
| | 1 | Hopper | 100,000 | 137,800 | 32 | 2 | A | 31,200 | 1934 | Co. shops |
| | 1 | Box | 80,000 | 98,500 | 40 | 6 | A | 37,500 | 1934 | Co. shops |
| | 1 | Hopper | 100,000 | 137,000 | 35 | 0 | A | 32,000 | 1934 | Co. shops |
| | 1 | Hopper | 100,000 | 141,300 | 35 | 0 | F | 27,700 | 1934 | Co. shops |
| | 1 | Box | 80,000 | 102,000 | 40 | 7 | A | 34,000 | 1935 | Co. shops |
| | 1 | Box | 80,000 | 97,600 | 40 | 6 | A-E | 38,400 | 1935 | Co. shops |
| | 1 | Box | 100,000 | 122,300 | 40 | 3 | E | 46,700 | 1935 | Co. shops |
| | 1 | Box | 100,000 | 122,100 | 40 | 3 | E | 46,900 | 1935 | Co. shops |
| | 1 | Hopper | 100,000 | 136,000 | 32 | 2 | A | 33,000 | 1935 | Co. shops |
| | 1 | Hopper | 100,000 | 136,100 | 32 | 2 | A | 32,900 | 1935 | Co. shops |
| | 1 | Hopper | 100,000 | 135,900 | 32 | 2 | A | 33,100 | 1935 | Co. shops |
| | 1 | Hopper | 100,000 | 134,000 | 25 | 0 | A | 35,000 | 1935 | Co. shops |
| | 1 | Hopper | 80,000 | 100,700 | 29 | 0 | E | 35,300 | 1939 | Co. shops |
| Belt Ry. Chicago | 50 | Hopper | 100,000 | ..... | 33 | 0 | D-E | 40,400 | 1940 | Pullman-Standard |
| Bessemer & Lake Erie | 100 | Hopper | 100,000 | 138,500 | 34 | 10 | A-E[1] | 30,500 | 1934 | Pressed Steel |
| | 200 | Hopper | 180,000 | 202,400 | 40 | 8 | A | 48,600 | 1936 | Pressed Steel |
| | 1,800 | Hopper | 180,000 | 202,400 | 40 | 8 | A-D | 48,600 | 1936 | Pullman-Standard |
| | 250 | Hopper | 140,000 | 164,500 | 40 | 8 | A | 45,500 | 1936 | General American |
| | 750 | Hopper | 140,000 | 164,400 | 40 | 8 | A | 45,600 | 1936 | American Car & Fdry. |
| | 500 | Hopper | 140,000 | 164,300 | 40 | 8 | A | 45,700 | 1936 | American Car & Fdry. |
| | 2 | Hopper | 180,000 | 202,300 | 40 | 8 | A-D | 48,700 | 1937 | Pullman-Standard |
| | 500 | Gondola | 100,000 | 122,200 | .. | .. | ... | 46,800 | 1937 | Greenville |
| | 100 | Box | 100,000 | 133,200 | 40 | 6 | A-C | 35,800 | 1938 | Pullman-Standard |
| | 1,000 | Hopper | 180,000 | 202,300 | 40 | 8 | A-D | 48,700 | 1939 | Pullman-Standard |
| | 500 | Gondola | 100,000 | 122,000 | 46 | 0 | A-D | 47,000 | 1939 | Pressed Steel |
| | 650 | Hopper | 180,000 | ..... | 40 | 8 | A-D | 48,700 | 1940 | Pullman-Standard |
| | 100 | Box | 100,000 | ..... | 40 | 6 | A | 42,000 | 1940 | American Car & Fdry. |
| | 5 | Hopper | 180,000 | ..... | .. | .. | A-D | ..... | 1941 | Pullman-Standard |
| Birmingham Southern | 100 | Box | 100,000 | 129,400 | 40 | 6 | A-D | 39,600 | 1936 | Pullman-Standard |
| | 100 | Hopper | 140,000 | 174,000 | 30 | 3 | A-C | 36,000 | 1939 | Pullman-Standard |
| Charleston & Western Carolina | 35 | Hopper | 100,000 | ..... | 33 | 0 | D-E | 40,400 | 1940 | Pullman-Standard |
| Chesapeake & Ohio | 5 | Hopper | 100,000 | 132,800 | 33 | 6 | A-D | 36,200 | 1935 | Bethlehem |
| | 10 | Hopper | 100,000 | 134,400 | 33 | 6 | A | 34,600 | 1934 | American Car & Fdry. |
| Chicago & North Western | 200 | Auto-box[2] | 100,000 | 112,900 | 50 | 6 | B | 56,100 | 1937 | Mt. Vernon |
| | 300 | Auto-box | 100,000 | 117,900 | 50 | 6 | B | 51,100 | 1937 | Mt. Vernon |
| | 500 | Hopper | 140,000 | 158,400 | .. | .. | B | 51,600 | 1937 | Pressed Steel |
| | 300 | Box | 100,000 | 119,200 | 50 | 6 | B | 49,800 | 1939 | Mt. Vernon |
| | 500 | Box | 100,000 | ..... | 50 | 6 | A | ..... | 1941 | Pullman-Standard |
| | 750 | Gondola | 100,000 | 126,500 | 41 | 3 | B | 42,500 | 1941 | General American |
| Chicago, Burlington & Quincy | 500 | Gondola | 100,000 | 125,500 | 43 | 1 | B | 43,500 | 1935 | Co. shops |
| | 5 | Hopper | 130,000 | 138,700 | 35 | 8 | A-E[1] | 30,300 | 1935 | Pressed Steel |
| | 500 | Gondola | 100,000 | 125,500 | 43 | 1 | B | 43,500 | 1936 | Co. shops |
| | 250 | Hopper | 110,000 | 130,600 | 35 | 1 | B | 38,400 | 1936-37 | Co. shops |
| | 100 | Auto[2] | 100,000 | 115,800 | 52 | 3 | B | 53,200 | 1937 | Co. shops |
| | 50 | Auto | 100,000 | 115,700 | 52 | 3 | B | 53,300 | 1937 | Co. shops |
| | 100 | Auto | 100,000 | 113,100 | 52 | 3 | B | 55,950 | 1937 | Co. shops |
| | 1,000 | Box | 100,000 | 124,800 | 41 | 9 | B | 44,200 | 1937 | Co. shops |
| | 1,500 | Gondola | 100,000 | 125,000 | 43 | 1 | B | 44,000 | 1937 | Co. shops |
| | 250 | Hopper | 110,000 | 130,600 | 35 | 1 | B | 38,400 | 1937 | Co. shops |
| | 150 | Auto | 100,000 | 116,200 | 52 | 3 | B | 52,800 | 1938 | Co. shops |
| | 100 | Auto[2] | 100,000 | 111,700 | 52 | 3 | B | 57,300 | 1938 | Co. shops |
| | 600 | Box | 100,000 | 125,400 | 41 | 9 | B | 43,600 | 1938 | Co. shops |
| | 300 | Gondola | 100,000 | 126,100 | 43 | 1 | B | 42,900 | 1938 | Co. shops |
| | 100 | Hopper | 110,000 | 131,400 | 35 | 1 | B | 38,600 | 1938 | Co. shops |
| | 50 | Box[9] | 100,000 | 111,300 | 52 | 3 | B | 57,700 | 1940 | Co. shops |
| | 50 | Box[8] | 100,000 | 119,100 | 41 | 9 | B | 49,900 | 1940 | Co. shops |
| | 950 | Box | 100,000 | 119,100 | 41 | 9 | B | 49,900 | 1940 | Co. shops |
| | 250 | Hopper | 110,000 | 131,400 | 35 | 1 | B | 38,600 | 1940 | Co. shops |
| | 400 | Auto-box | 100,000 | 112,000 | 52 | 3 | B | 57,000[10] | 1941 | Co. shops |
| | 75 | Box[8] | 100,000 | 112,000 | 41 | 9 | B | 49,900[10] | 1941 | Co. shops |
| | 925 | Box | 100,000 | 112,000 | 41 | 9 | B | 49,900[10] | 1941 | Co. shops |
| | 225 | Auto[2] | 100,000 | 106,000 | 52 | 3 | B | 63,000[10] | 1941 | Co. shops |
| | 100 | Auto | 100,000 | 109,000 | 52 | 3 | B | 60,000[10] | 1941 | Co. shops |
| | 250 | Hopper | 110,000 | 131,400 | 35 | 1 | B | 38,600[10] | 1941 | Co. shops |
| Chicago Great Western | 5 | Hopper | 140,000 | 164,100 | 41 | 0 | C-E | 45,900 | 1930 | Pullman-Standard |
| | 50 | D. S. box | 100,000 | 133,000 | 40 | 6 | A-C | 36,000 | 1937 | Pullman-Standard |
| Chicago, Indianapolis & Louisville | 200 | Hopper | 100,000 | ..... | 33 | 0 | D-E | 40,300 | 1940 | Pullman-Standard |
| | 150 | Box | 100,000 | ..... | .. | .. | D-E | ..... | 1941 | Pullman-Standard |
| Chicago, Milw., St. Paul & Pac. | 500 | Auto-box | 100,000 | 121,700 | 50 | 6 | A-C-E | 47,300 | 1936 | Co. shops |
| | 500 | Auto-box | 80,000 | 94,800 | 40 | 6 | A-C-E | 41,200 | 1936 | Co. shops |
| | 500 | Auto-box | 100,000 | 120,600 | 50 | 6 | A-C-E | 48,400 | 1937 | Co. shops |
| | 1,188 | Box | 100,000 | 126,200 | 40 | 6 | A-C-E | 42,800 | 1939 | Co. shops |
| | 2,000 | Box | 100,000 | 126,400 | 40 | 6 | A-C-E | 42,600 | 1939-40 | Co. shops |
| | 500 | D. S. Box | 100,000 | ..... | 50 | 6 | A-C-E | 48,000[10] | 1941 | Co. shops |
| Chicago, Rock Island & Pacific | 150 | Hopper | 100,000 | ..... | 33 | 0 | D-E | 40,300 | 1940 | Pullman-Standard |
| Chicago, W. Pullman & Southern | 8 | Gondola | 100,000 | ..... | 41 | 0 | D | ..... | 1940 | Co. shops |
| Delaware & Hudson | 1 | Hopper | 80,000 | 103,300 | 28 | 0 | A-C-E | 32,700 | 1936 | Co. shops |
| Delaware, Lackawanna & Western | 500 | D. S. box | 100,000 | 124,800 | 40 | 6 | A | 44,200 | 1939 | Magor |
| | 500 | Hopper | 100,000 | 130,800 | 34 | 0 | B | 38,200 | 1939 | American Car & Fdry. |
| | 3 | D. S. box | 100,000 | 124,800 | 40 | 6 | A | 44,200 | 1940 | Magor |
| Denver & Rio Grande Western | 400 | Box[3] | 100,000 | 126,500 | 40 | 6 | A-D | 42,500 | 1939 | Pressed Steel |
| | 100 | Auto-box[3] | 100,000 | 124,500 | 40 | 6 | A-D | 44,600 | 1939 | Pressed Steel |
| | 50 | Gondola | 140,000 | 151,300 | 65 | 0 | A | 58,700 | 1939 | Pressed Steel |
| | 1,500 | Box[3] | 100,000 | 126,500 | 40 | 6 | A-D | 42,500 | 1940-41 | Pressed Steel |
| Detroit & Mackinac | 5 | S. S. box | 100,000 | ..... | 40 | 6 | D-E | 40,500 | 1940 | Pullman-Standard |
| Duluth, Missabe & Iron Range | 50 | Hopper | 140,000 | 162,000 | .. | .. | ... | 48,000 | 1936 | Ryan Car Co. |
| | 100 | Gondola | 100,000 | ..... | 40 | 0 | A | 44,500 | 1941 | American Car & Fdry. |
| Elgin, Joliet & Eastern | 200 | Gondola | 100,000 | 126,100 | 48 | 6 | A | 42,900 | 1936 | Mt. Vernon |
| | 200 | Hopper | 100,000 | 130,100 | 34 | 9 | A | 38,900 | 1936 | Mt. Vernon |
| | 300 | Hopper | 100,000 | 129,800 | 34 | 9 | A | 39,200 | 1939 | Gen. American |
| | 500 | Gondola | 100,000 | 126,100 | 48 | 6 | A | 42,900 | 1939 | Mt. Vernon |
| | 600 | Hopper | 100,000 | 130,000 | 34 | 9 | A | 39,000 | 1939 | American Car & Fdry. |
| | 300 | Hopper | 100,000 | 129,800 | 34 | 9 | A-D | 39,200 | 1939 | Pullman-Standard |
| | 300 | Hopper | 100,000 | 129,700 | 34 | 9 | A | 39,300 | 1939 | Ralston Steel Car |
| | 300 | Box | 100,000 | 123,300 | 40 | 6 | A-E | 45,700 | 1941 | American Car & Fdry. |
| | 200 | Box | 100,000 | 123,300 | 40 | 6 | A | 45,700[10] | 1941 | Mt. Vernon |
| | 150 | Gondola | 100,000 | 126,100 | 48 | 6 | A | 42,900 | 1941 | Mt. Vernon |
| | 350 | Gondola | 100,000 | 126,100 | 48 | 6 | A | 42,900 | 1941 | General American |
| | 250 | Hopper | 140,000 | 155,000 | 39 | 7 | A | 55,000 | 1941 | Ralston |
| General American Transp. Co. | 2 | Box | 100,000 | 132,200 | 40 | 6 | A-C-E | 36,800 | 1938 | Co. shops |

| Purchaser | No. cars | Class | Capacity, lb. Nominal | Capacity, lb. Load limit | Length ft. | Length in. | Features of construction effecting weight reduction* | Weight lb. | Year ordered | Builder |
|---|---|---|---|---|---|---|---|---|---|---|
| Kansas City Southern | 50 | Box | 100,000 | 121,600 | 50 | 0 | A-D | 47,400 | 1936 | Pullman-Standard |
| Lake Superior & Ishpeming | 25 | D. S. box | 110,000 | ..... | 40 | 6 | D-E | 40,500 | 1940 | Pullman-Standard |
| Lehigh Valley | 500 | D. S. hopper | 110,000 | 128,300 | 31 | 0 | D | 40,700 | 1939 | Bethlehem |
| Louisville & Nashville | 250 | Hopper | 100,000 | ..... | 33 | 0 | D-E | 40,500 | 1940 | Pullman-Standard |
| | 250 | Hopper | 100,000 | ..... | 33 | 0 | D-E | 40,700 | 1940 | Pullman-Standard |
| Mt. Vernon Car Mfg. Co. | 1 | Box | 100,000 | 132,600 | 40 | 6 | A | 36,400 | 1935 | Co. shops |
| New York Central | 78 | Hopper | 110,000 | 132,100 | 31 | 11 | B[4] | 36,900 | 1936 and 1940 | Co. shops |
| New York, Chicago & St. Louis | 200 | Box | 100,000 | 130,700 | 40 | 6 | A-C | 38,300 | 1939 | Pullman-Standard |
| Norfolk & Western | 1,000 | Hopper | 110,000 | 130,500 | 31 | 0 | D-E | 38,500 | 1936 | Co. shops |
| | 500 | Hopper | 110,000 | 130,500 | 31 | 0 | D | 38,500 | 1936 | Pressed Steel |
| | 500 | Hopper | 110,000 | 130,500 | 31 | 0 | D | 38,500 | 1936 | Virginia Bridge |
| | 2,000 | Hopper | 110,000 | 130,500 | 31 | 0 | D | 38,500 | 1937 | Bethlehem |
| | 2,000 | Hopper | 110,000 | 130,500 | 31 | 0 | D | 38,500 | 1937 | Virginia Bridge |
| | 500 | Hopper | 110,000 | 130,500 | 31 | 0 | D-E | 38,500 | 1937 | Co. shops |
| | 2,500 | Hopper | 110,000 | 127,900 | 31 | 0 | D | 41,500[5] | 1939-40 | Virginia Bridge |
| | 2,250 | Hopper | 110,000 | 127,900 | 31 | 0 | D | 41,500[5] | 1939-40 | Bethlehem |
| | 1,250 | Hopper | 110,000 | 127,900 | 31 | 0 | D | 41,500[5] | 1939-40 | Ralston |
| | 500 | Gondola | 110,000 | ..... | 46 | 0 | D | 43,200 | 1940 | Virginia Bridge |
| Norfolk Southern | 50 | Hopper | 110,000 | ..... | 30 | 11 | D | 41,400 | 1941 | Virginia Bridge |
| Northern Pacific | 200 | Hopper | 100,000 | 128,700 | 33 | 0 | D-E | 40,300 | 1940 | Gen. American |
| | 900 | Box | 100,000 | ..... | 40 | 9 | D-E | ..... | 1940 | Pullman-Standard |
| Pennsylvania | 1 | Box | 100,000 | 127,400 | 40 | 6 | E | 41,600 | 1936 | Co. shops |
| | 1,900 | Gondola | 140,000 | ..... | 52 | 6 | B-D | 55,800 | 1940 | Co. shops |
| Pere Marquette | 100 | Box | 100,000 | 130,700 | 40 | 6 | A-C | 38,300 | 1939 | Pullman-Standard |
| Pittsburgh & Lake Erie | 5 | Hopper[6] | 100,000 | 137,200 | 34 | 10 | A-E | 31,800 | 1935 | Pressed Steel |
| Pressed Steel Car Co. | 1 | Hopper | 100,000 | 138,500 | 34 | 10 | A-E[1] | 30,500 | 1934 | Co. shops |
| Pullman Railroad | 1 | Box | 100,000 | 134,800 | 40 | 6 | A-C | 34,200 | 1935 | Pullman-Standard |
| | 1 | D. S. box | 100,000 | 133,800 | 40 | 6 | A-C | 35,200 | 1936 | Pullman-Standard |
| Rustless Iron Corp. of America | 1 | Hopper | 100,000 | 135,900 | 35 | 0 | A | 33,100 | 1935 | Ralston Steel Car |
| St. Louis-South Western | 200 | Box | 100,000 | ..... | 40 | 6 | B-D | 40,500 | 1940 | Co. shops |
| | 100 | Box | 100,000 | ..... | 50 | 6 | B-D | 46,000[10] | 1940 | Co. shops |
| Tennessee Central | 65 | Hopper | 100,000 | ..... | 33 | 0 | D-E | 40,300 | 1940 | Pullman-Standard |
| Texas & New Orleans | 1 | Gondola | 140,000 | 161,900 | .. | .. | G | 48,100 | 1937 | American Car & Fdry. |
| Union Pacific | 50 | Box | 100,000 | 133,000 | 40 | 6 | A-C | 36,000 | 1937 | Pullman-Standard |
| | 400 | D. S. auto[2] | 100,000 | 118,300 | 50 | 8 | A-D | 50,700 | 1937 | Co. shops |
| | 200 | D. S. auto | 100,000 | 120,300 | 50 | 8 | A-D | 48,700 | 1937 | Co. shops |
| | 100 | D. S. auto | 100,000 | 117,300 | 50 | 6 | A-D[7] | 51,700 | 1937 | Co. shops |
| | 1,900 | D. S. box | 100,000 | 129,500 | 40 | 6 | A-D | 39,500 | 1937 | Co. shops |
| | 50 | D. S. box | 100,000 | 132,100 | 40 | 6 | A-D | 36,900 | 1938 | Bethlehem |
| | 50 | D. S. box | 100,000 | 131,000 | 40 | 6 | A-D | 38,000 | 1938 | Co. shops |
| | 1,900 | D. S. box | 100,000 | 129,200 | 40 | 6 | A-D | 39,800 | 1939 | Co. shops |
| | 100 | D. S. box[8] | 100,000 | 124,800 | 40 | 6 | A-D | 44,200 | 1939 | Co. shops |
| | 1,500 | D. S. box | 100,000 | 128,600 | 40 | 6 | A-D | 40,400 | 1940 | Co. shops |
| | 2,000 | D. S. box | 100,000 | 127,300 | 40 | 6 | A-D | 41,700 | 1940 | Co. shops |
| | 500 | D. S. auto[2] | 100,000 | 122,400 | 40 | 6 | A-D | 46,600 | 1940 | Co. shops |
| | 10 | D. S. box[8] | 100,000 | 124,300 | 40 | 6 | A-D | 44,700 | 1940 | Co. shops |
| | 250 | D. S. auto | 100,000 | 116,300 | 50 | 6 | A-D[7] | 52,700 | 1940 | Co. shops |
| | 10 | D. S. box[8] | 100,000 | 125,200 | 40 | 6 | A-D | 43,800 | 1940 | Co. shops |
| | 10 | D. S. box[8] | 100,000 | 124,500 | 40 | 6 | A-D | 44,500 | 1940 | Co. shops |
| Union Railroad | 520 | Hopper (coke) | 100,000 | 126,600 | 40 | 2 | A | 42,400 | 1935 | Co. shops |
| Wheeling & Lake Erie | 200 | Box | 100,000 | 130,300 | 40 | 6 | A-C | 38,700 | 1939 | Pullman-Standard |
| Wisconsin Central | 50 | D. S. box | 100,000 | ..... | 40 | 6 | D-E | 44,000 | 1940 | Pullman-Standard |
| | 100 | D. S. auto | 100,000 | ..... | 50 | 0 | D-E | 50,300 | 1940 | Pullman-Standard |

*Source of weight saving:
A—High-tensile steel
B—Partially high-tensile steel
C—All welded
D—Partially welded
E—Special features of design
F—Aluminum alloys
G—Partially aluminum alloys

[1] Hollow axles
[2] With auto loaders
[3] Equipped with Duryea cushion underframe
[4] Original flat sides and hopper construction replaced with panel sides and hoppers of alloy steel in general repairs
[5] Thickness of end and slope sheets increased from ¼ in. on earlier cars to ⅜ in.
[6] Same as the Pressed Steel Car Company's hopper car, but equipped with empty and load brake and solid axles
[7] End doors, center loading rail
[8] For high-speed merchandise service
[9] Equipped with special perforated lining for handling automobile and farm implement parts.
[10] Estimated weight

grams, or even the assembly of complete new freight cars in railway shops, the entire operation is generally being made possible today by the fact that prefabricated steel underframes, sides, ends, roof sheets, doors, etc., can be purchased from the manufacturers, located at the proper place in the assembly line and built into the completed car structures. The manufacturers of these individual car parts have continued to improve their products during the last year and, in several details, suitable changes in design have increased the strength as much as 25 per cent, enlarged the car capacity, or secured other advantages.

Similar improvements have been made in hand brakes, metal running boards, door-operating mechanism and other car parts, all of which have an important bearing on the service rendered to shippers.

The operating efficiency of freight trains has been greatly increased by the use of AB brakes which are now widely installed on new cars. Prompt, smooth handling of trains depends, however, largely on the full application of this type of equipment, which will greatly expedite freight transportation service. Almost half a million cars had been equipped with the AB brake by the end of 1940, but the railroads and the private car companies still have a long way to go in applying this type of brake on the rest of their interchange car equipment by January 1, 1945, as required by the Association of American Railroads.

**Cars Moving Through the Oak Island Yards of the Lehigh Valley at Newark, N. J.**

**The Stronger Track Structure of Today Has Opened the Way for Heavier Power and Higher Speeds**

# Engineering Is

## Increased attention to the design, strength and adequacy of the track structure and numerous service facilities is permitting maximum service to shippers through modern power and rolling stock

NO matter how adequate the motive power and rolling stock of the railways, and no matter how urgent the demands of passengers and shippers, it is axiomatic that railway train service can be no safer, or more dependable, no faster or more regular than is permitted by the elements of the fixed properties of the railways that enter into that service, whether they be main tracks, secondary tracks, sidings, terminals, freight houses or locomotive servicing facilities, such as coaling stations and water-treating and pumping plants.

Of these matters, the shipper knows little, and to them he gives little or no thought. He does not know the intricate problems of rail design and maintenance, has probably never heard of the all-important anti-creeper, and satisfies his interest in ties by observing that they are of wood, apparently treated with some kind of oil. This is as it should be. Shippers have their own problems. However, in their own interest, they should at least realize the fundamental importance of these factors to the kind of service that they are demanding from the railways.

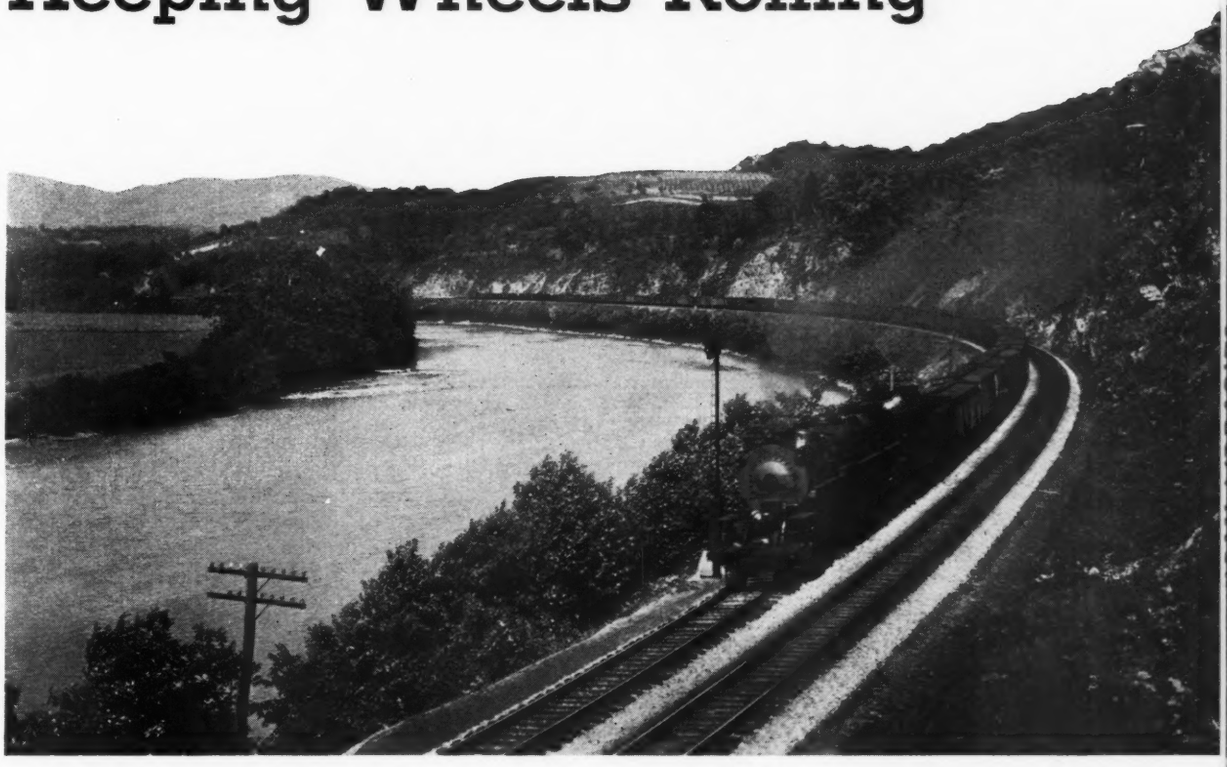
On the other hand, to those responsible for the tracks and other elements of the fixed properties of the railways, the challenge which these elements present to safe and dependable service in fair weather and foul, 24 hours a day, 365 days a year, is the "bone and marrow" of their daily existence. These men realize fully that modern merchandising and marketing methods in local, interstate and foreign commerce, with their increasing demands for fast, regular, on-time service with minimum damage to shipments, have created new demands on the track structure and on other train service facilities, and individually and collectively, working in close co-operation with railway supply manufacturers and other outside agencies, they have set out to meet them.

High-speed passenger train operation of the last six or eight years has, unquestionably, opened the way for the faster freight train speeds of today, and for the still higher speeds of freight trains that are contemplated on many important runs. This expedited passenger service has brought about largely increased attention to the track structure in the interest of strength, smooth operation and safety, but large as this has been, still more attention is now being demanded to meet the greater impacts of heavy freight equipment operating at high speeds.

What these higher speeds mean to the track structure is evidenced strikingly by the fact that the abuse sustained by the track increases approximately as the square of the speed. This means, for example, that as the speed is doubled, which has not been at all uncommon in recent years, the abuse of the track is quadrupled. To meet this largely increased demand, the railways generally are building greater strength and stability into every element of their important tracks, from the roadbed to the running rails.

From the standpoint of the rails themselves, this has extended from improved design and chemical composition through improved mill practices to methods of laying and servicing the rail in track. In 1933, in recognition of the growing demands on the track structure, the American Railway Engineering Association adopted a 131-lb. rail section, which, while only slightly heavier than its previous heaviest section, incorporates, through increased height, materially increased girder strength, thereby insuring better riding track, with its less detrimental effect on equipment and lading. At the same time, to meet the especially exacting demands of traffic and heavy wheel loads on at least portions of their lines, the Pennsylvania and the Bessemer & Lake Erie are laying a 152-lb. rail section, far heavier than any Tee section rolled heretofore, with a height of 8 in. as compared with heights of 6 in. and 6¾ in., respectively, for the 100- and 130-lb. rails which were considered adequate for the heaviest traffic only a few years ago. That the railways of the country are adopting these heavier rail sections is shown by the fact that whereas as recently as 10 years, only 76 per cent of the railroad rails

# Playing Vital Part in Keeping Wheels Rolling



**Heavy, High-Speed Freight Service Demands Much From the Track and the Roadbed**

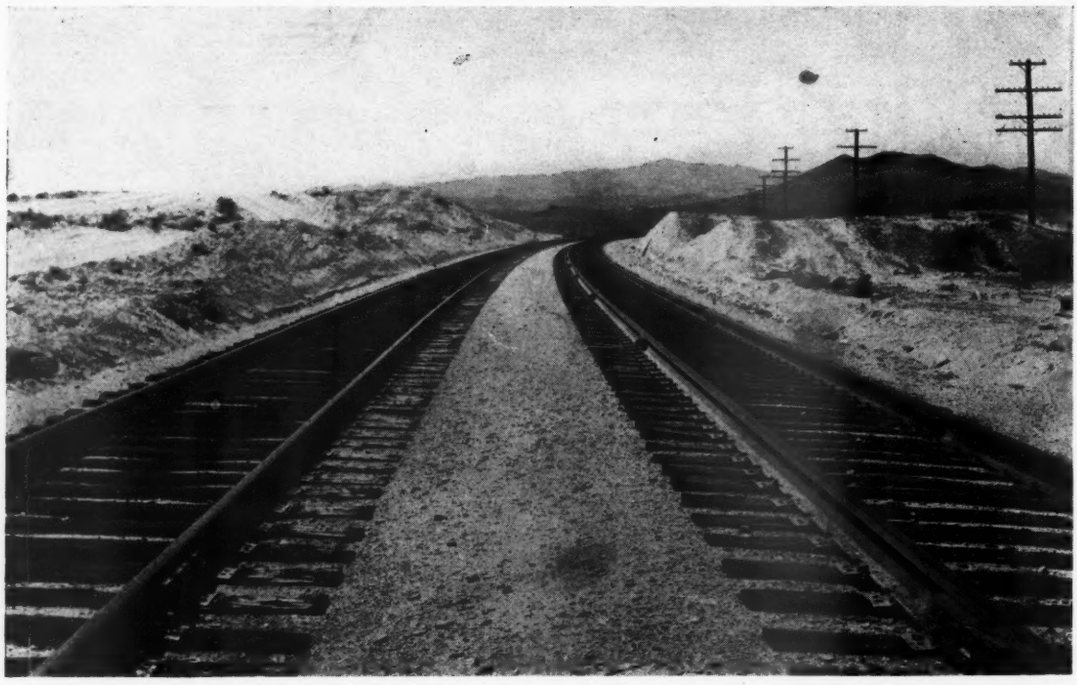
rolled in this country were of sections weighing 100 lb. per yd. or heavier, approximately 90 per cent of the rails rolled in 1939, the last year for which statistics are now available, weighed 100 lb. per yd. or heavier, and 39 per cent were of sections weighing 120-lb. per yd. or heavier.

Coupled with this increase in the weight and size of sections have been the outstanding developments of the last few years in the manufacture of rails, including the Brunorizing and controlled-cooling processes and rail-end hardening, brought about through the co-operative efforts of the Association of American Railroads, the American Railway Engineering Association, the Rail Manufacturers' Technical committee and the University of Illinois, largely in the interest of the elimination of transverse fissures in rails and the prevention of premature end batter under service. As the result of these efforts, rail is being produced today without shatter cracks, the known origin of transverse fissures, which have caused the railways deep concern for many years, and which are still a problem in rails rolled prior to the development of the Brunorizing and controlled-cooling processes.

### A Safer Rail

Even the threat of the transverse fissure that still remains is being minimized by the extensive operation of transverse fissure detector cars on the railways of the country, many roads operating these cars over their important tracks two or more times each year to weed out rails which have developed hidden weaknesses that might affect the integrity of the track structure. While this searching examination of the rail is obviously in the interest of the greatest safety of passenger train operation, it is becoming increasingly important also to insure the safety and dependability of high-speed freight service.

That this fact is recognized is seen in the practice of detector car operation on many roads. To cite only one example, the Missouri Pacific is operating under a plan which calls for the inspection of the rail in all of its more important passenger and freight-carrying lines at least twice yearly, the total mileage inspected having increased from year to year to a peak of more than 9,000 miles in 1940. Furthermore, in the interest of maximum safety for its heavy freight movements, a rail-flaw detector car is operated over its different lines in advance of the heaviest seasonal movements over these lines. Thus, a large part of the testing done during the fall and winter is confined to its southern lines, which places the testing of these lines immediately ahead of the heavy spring movements of fruit and vegetables northward over them, as well as the heavy winter movement of coal from southern Illinois. Early in the spring and summer, testing is shifted to the more northerly lines, and, in particular, to the main lines west of St. Louis, to permit the inspection of the rail in this territory immediately ahead of the



Sturdy Track Construction on a Four-Mile Line Change on the Santa Fe in Arizona, Completed Recently, to Get Away from the Flood Waters

heavy produce movements eastward from the mountain and coast regions.

### More Ballast—Larger Ties

As in the case of rail to meet the increased burdens of high-speed train operation, road after road has given increased attention to its crossties and ballast section. In the latter regard, they have found that they require not only a better grade of ballast, but a deeper section of ballast beneath the ties as well. And in at least a few cases, under the excessive thrusts of high-speed passenger and freight trains, roads have found it necessary to increase the width of their ballast section in order to hold the track in proper alinement.

As for the ties which distribute the rail loads to the ballast and subgrade, the practices of the railways generally are witnessing marked progress through better grades of ties, preservative treatment and increased size. These improvements in practice are being made not alone because of the unquestioned economies to be derived through the longer life of ties through treatment, and the reduced track maintenance costs resulting from the generally strengthened track structure through the use of larger ties, but also in the interest of the most satisfactory operation of both passenger and freight trains, which is invariably affected adversely by the disturbance of the track structure necessary in making tie renewals and in carrying out work operations in general. Many roads have already gone to 7-in. by 8-in. by 8½-ft. ties from an earlier standard of 6-in. by 8-in. by 8-ft., but leading in this regard is the Atchison, Topeka & Santa Fe, which recently, in the interest of greater stability of its tracks under the demands of present-day operation, adopted a 7-in. by 9-in. by 9-ft. tie for tangents and curves in its more important main tracks between Chicago and Los Angeles, Cal., and for curves of 1 deg. and over in certain of its less important main tracks in this territory and elsewhere.

Along with this strengthening of the track structure itself, high-speed operation demands strength and stability in the substructure of the track, and to this end the railways are continuing to spend increasingly large sums of money for bank widening and for ditching and track subdrainage, the latter being essential at thousands of locations to free the roadbed of water and resulting soft spots which demand slow orders and thus impede the speed of trains. The extent to which some roads are going in the matter of deep ditching to pull water out of the roadbed is illustrated strikingly on the New York division of the Pennsylvania, where in a program that is going forward as rapidly as available funds will permit, many miles of side ditches have already been excavated, up to eight feet and more in depth; in effect, transforming wet unstable roadbed cuts into stable roadbed fills.

Similarly, the importance attached to subdrainage by other means to free entrapped water from the roadbed

Concrete Blanket Protection Is One of the Ways in Which the Railways Are Fortifying Hundreds of Miles of Track Embankments Against High Water and Floods

is illustrated on the Pennsylvania, the Missouri Pacific, the Milwaukee, the Illinois Central and many other roads, where, in recent years, various types of subdrainage systems have been installed in hundreds of locations in the interest of eliminating soft spots, with their essential speed restrictions. Tackling the problem of soft roadbed from still other angles, particularly where adequate ditching or subdrainage would be extremely difficult or costly because of the character of the territory involved, certain roads have been experimenting with various types of track supports to spread the load over the subgrade, including the use of precast concrete slabs, continuous timber mats and cement-grouted ballast, and at least a few roads have secured the desired increased stability of their roadbed for many miles in the aggregate through driving piles or poles into the subgrade along both sides of the track, close to the ends of the ties.

### Millions for Roadbed Protection

Dependable and uninterrupted train service, as experience has shown over the years in literally thousands of instances, demands more than a "fair-weather" track. It demands track that is fortified against the ravages of high water, floods and avalanches of debris and snow, because it would profit the railways and their customers little to have normally high-speed track that is subject to disruption by anything but unprecedented conditions against which no reasonable precautions can be taken. Few realize the magnitude of this problem in the face of constant threats along the thousands of miles of their lines that skirt and span rivers and streams, cross mountains and traverse valleys and canyons, but the fact remains that to protect themselves against these ravages of nature, the railways have spent millions for bank protection in the form of rip-rap, concrete paving and various types of jetties and revetments; for channel and line changes to remove the threat of floods; and even for extensive flood control work up streams and water courses, thousands of feet from their rights-of-way. More than this, where conditions indicate the need, the railways are enlarging the waterway openings beneath their tracks for hundreds of streams and water courses each year, this, in many cases, requiring major bridge extension and reconstruction projects.

Noteworthy among the flood control work that has been done by the railways in recent years is that of the roads threatened by high water in the lower Mississippi river and its tributaries, the Missouri Pacific alone having spent more than $17,500,000 in this territory to raise its tracks above probable high water and to establish flood openings of sufficient area to insure the passage of flood waters without damage to the track or interference with the continuity of its service to shippers and the public in general. Outstanding too in this regard is the extensive line relocation of the Southern Pacific in Soledad canyon near Los Angeles, Cal., where, following the disastrous flood in March, 1938, a series of line changes were effected extending over a distance of approximately 14,000 ft., which required the shifting of the track as much as 65 ft. at one point and raising it a maximum of 17 ft. in its new location. This work, in conjunction with other measures to rebuild or strengthen many miles of its lines in this general territory to minimize the menace of flood waters, cost in excess of 2½ million dollars.

Equally effective has been the extensive work of the Atchison, Topeka & Santa Fe in this same general territory, and further to the east, to prevent interruptions to traffic by floods, the work of this road involving numerous major line changes. One of the most recent of these changes, completed last year, was made through Majave Gap, near Yucca, Ariz., where approximately four miles of double track were rebuilt on a better alinement at a higher level, involving the construction of two

**One of the Many Curve Reduction Projects Carried Out on the Chicago, Burlington & Quincy to Permit Higher Speeds**

**Many Track Maintenance Operations Are Being Further Mechanized to Speed Production, Effect Economies and Cause the Least Interference With Train Movements**

steel bridges, one 400 ft. long, and approximately 520,000 sq. ft. of concrete blanket bank protection.

On top of all of the classes of work already mentioned, and just as fast as earnings will permit, the railways are building "speed" into their tracks through curve reductions and refinements in standards of maintenance to a degree that was little thought of as recently as a decade ago. Few but track maintenance men and those who operate trains realize the degree to which curves and the general standard of track maintenance exercise control over permissible train speeds, and the fact remains that only those roads that have given major attention to curve reduction work and to a higher degree of refinements in track line, surface and gage have been able to make the most outstanding records for sustained high-speed train operation and shortened schedules. Almost invariably however, fast passenger service has opened the door—has led the way—for high-speed freight service, and where this has been the case, and where the track generally has been made smooth, comfortable-riding and safe for high-speed passenger trains, the requirements of even the highest speed freight trains in these regards have been met. However, on those lines where high-speed freight service is controlling, it has been necessary to incorporate many of these refinements in the track to meet the specific demands of this service.

The magnitude of the curve reduction work confronting the railways can be appreciated readily by any one who rides the rails, but the fact that the railways are accepting the challenge of speed restrictions on curves, and have already done an extensive amount of work in this direction, is evidenced by the fact that some roads are reducing their curves to a maximum of 1 deg. wherever practicable, which, with the proper superelevation, will permit speeds up to 100 m. p. h., in many instances making extensive line changes to bring this favorable situation about.

Among the many other ways in which the engineering and maintenance of way department is co-operating with other departments to minimize delays to high-speed trains are the increasing use of longer turnouts at points of crossover, at the ends of double-track, and at points of diverging routes, increasing the maximum allowable speed at these points, especially where they constitute bottle necks in otherwise unrestricted territory; the increasing use of spring switches at the ends of double track and at passing-siding turnouts, particularly where trains must be started on grades or where delays would be incurred by the necessity of stopping to open and close switches, and the growing acceptance of mechanical locks for switches, to prevent their being opened accidentally under trains as the result of damage to the switch stands or other operating mechanisms, with the serious disruptions of traffic which might result.

### Revise Methods to Avoid Slow Orders

Even beyond the physical aspects of the track structure itself, and affecting practically every phase of the work carried out on the track, the maintenance of way forces are extending their efforts to minimize delays in the movement of freight traffic. In this latter regard, many former methods of carrying out work have been completely reorganized to prevent fouling or weakening of the track and, where slow orders are essential for the full safety of train movements, to minimize the restrictions as much as possible and to remove the slow orders completely at the earliest possible moment. Thus, numerous routine maintenance operations are being taken completely off the rails, many roads having adopted such off-track equipment as generators, air compressors, mowing machines, automobile trucks, cranes, draglines and tractors and other types of grading and ditching equipment to this end.

The adoption of these newer developments in equipment is permitting the completion of many maintenance operations today without interfering with train movements in any way, and in many cases with greater efficiency from the standpoint of the work operations themselves. Where it is essential to give the track forces exclusive use of a track for an appreciable period of the day, trains are routed around work operations over adjacent tracks, where possible, but even this practice, with its unquestioned advantages to the maintenance forces in increased production and economy, is being restricted to a minimum on many roads and is barred completely on others where it would result in the slightest interference with the movement of important trains.

What is being done by the track forces in their efforts to avoid train delays is typical of what is being done by

the bridge forces in carrying out their work, even in spite of problems, at times, more difficult than those that confront the track forces. On important lines today, most bridge repair and partial renewal jobs are being carried out without slow orders of any kind, while where this is physically impossible, the operations are planned and carried out with the aid of off-track or readily demountable equipment, to the end that speed restrictions will be a minimum in degree and duration. Wherever possible, bridge forces are today, in large measure, constructing falsework of a design and strength that will permit train movements at unrestricted speeds. At those points where this is not feasible, or is impossible, as is the case at many of the larger grade crossing separation projects underway throughout the country, shoofly tracks are being provided to carry traffic during the course of the work, many of these temporary tracks being built to a standard that will permit normal or near-normal train speeds, whereas only a few years ago, safety at minimum speed was the only requirement.

And what can be said concerning the organizations and methods employed to carry out routine maintenance and construction operations in the interest of dependable and accelerated train movements can be said with equal truth concerning the methods and organizations developed to meet emergencies of whatever character. While it would be difficult, if not impossible, for railway men today to surpass the loyalty, ingenuity and endurance of railway men in the past in meeting emergencies, whether these emergencies arise from floods, accidents or storms, it is a fact that in the interest of greater speed in coping with emergencies and in restoring normal conditions at the earliest possible moment, railway men today are better equipped with means of transportation and with power tools and units of work equipment, which enable them to cope in a matter of hours with conditions that would have caused long delays only a few years ago.

Nowhere is this better exemplified than in the organizations and equipment of the northern railways of the country to cope with winter storms. On every such road, and especially at terminals and other key points, equipment and materials are either in place or kept conveniently at hand for instant use, and, under organizations as carefully planned and co-ordinated as the most highly organized army unit, every man knows the part he is to play and jumps into action on his own responsibility when a storm arises—all again, in the interest of insuring the uninterrupted movement of the nation's commerce on the rails, regardless of weather conditions.

### Yards Must Be as Fast as Main Lines

In addition to all of the factors already mentioned, there are numerous others wherein the railways seek to serve shippers better through minimum train delays and expedited service generally. One of these is in the switching and classification yards, always an important factor in keeping freight traffic moving, but today, in the face of demands for shorter schedules and earlier deliveries, the very heart of freight-train operation. In fact, it may be said that all that has been done to speed up and increase the dependability of road movements would be of little avail if cars were to be delayed in yards from any cause whatever. With this fundamental fact in mind, yard layouts are being adjusted, new facilities are being added, and even the tracks are being strengthened and maintained to a new standard, with the one end of accelerating yard movements.

Modern yard operation is calling for the faster handling of cars, from the time they leave the main tracks until they are classified and redispatched to their destinations. This, in turn, calls for an adequate number of receiving yard tracks of sufficient length to take care of the greatest demand; modern methods of handling waybills; speed in the formulation and distributing of switching lists; rapid communication systems; humps of proper heights and grades; the increasing use of car retarders; an adequate number of classification tracks of the proper lengths to meet demands, requiring a minimum of flat switching at the outgoing end of the yard; multiple-switching leads at the hump end to permit the longest possible classification tracks and to speed the routing of cars into the tracks according to destinations; the power operation of switches; adequate signaling; a strong track structure; floodlighting to expedite night operations; and, where a departure yard is deemed desirable, that it be of adequate length and size to permit the checking and conditioning of trains for the next lap of road service in the most expeditious manner. Many of these factors entering into yard operation are so closely related to the functions of the signal and electrical departments

**Many Devices Are Being Incorporated in Yards to Make Them as "Fast" as Main Line Tracks**

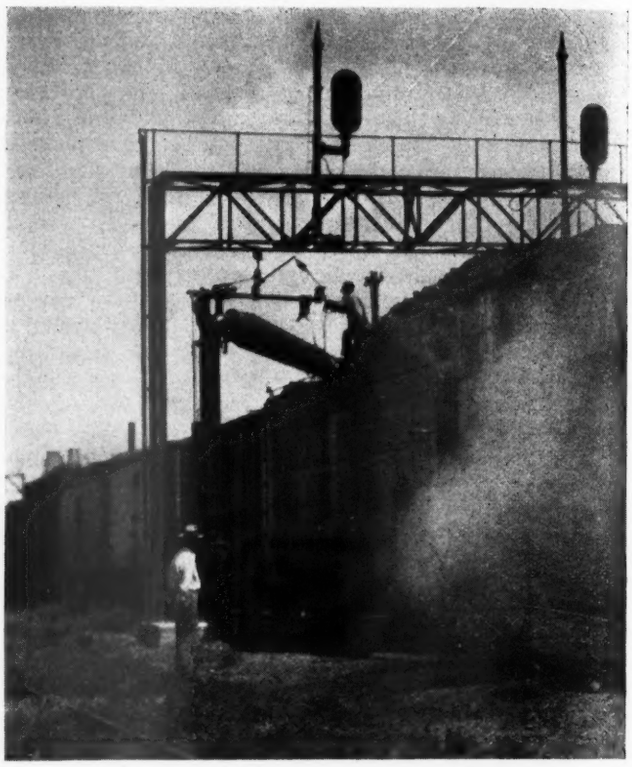
of the railways that they are referred to in detail elsewhere in this issue in the article entitled Modern Signals Speed Shippers' Freight. However, it is not amiss to point out here that a weakness in any one of them throttles the speed of handling cars, eating into the advantages being gained in more expedited road service.

In recognition of this fact, important yards of the railways today are receiving attention second to no other facility. Even the tracks themselves, which in earlier years were of light construction and kept up with a minimum of maintenance, are receiving largely increased attention in the way of heavier rail and track fastenings, treated ties, larger tie plates, manganese steel frogs, and improved switches and switch stands in order to build into them the same degree of dependability that is being provided in main-line tracks. Today, the one common point of view on the railways is that yards shall be so designed and equipped that traffic will flow through them without delays due to bottle necks, derailments, storms or interference resulting from routine maintenance.

### Speed Up Locomotive Fueling and Watering

Along with main lines and yards, there are many other elements of the fixed properties that enter into expedited freight service, failure of any one of which can defeat in part or in whole the gains made elsewhere. Outstanding among these other elements are locomotive fueling and watering facilities, and the quality of the locomotive boiler water itself, any one of which can have a pronounced influence upon the road time of trains.

Recognizing these specialized responsibilities, the railways are giving increasing consideration to these facilities, re-arranging them as to location and capacity as demanded by longer engine runs and other changed operating conditions, and replacing them, where necessary, with equipment of modern design to speed up delivery and thereby cut even minutes from necessary service stops. Examples of this character are to be seen on every hand, the latest possibly in the "one-stop" combined locomotive coaling, sanding, cinder-handling and water-delivery plant completed within the last year on the Lehigh Valley at Towanda, Pa., where locomotives of any size, on either of two tracks, can be refueled, watered, sanded, and have their ash pans dumped at the same time. Prior to the completion of this plant, all road servicing of locomotives on the Lehigh Valley was done at engine terminals, with the delays and increased operating expenses that resulted. Today, as the result of the new facilities at Towanda, it is possible to run both passenger and freight trains continuously through between Jersey City, N. J., and Buffalo, N. Y., the east and west terminals of this road, without changing locomotives and without uncoupling them from their trains.



**Large Capacity Water Columns, Delivering More Than 4,000 G. P. M. to Locomotive Tenders, Speed Freight Trains on Their Way**

**Modern Main-Line Coaling Stations, With Rapid Delivery, Are Reducing the Length of Refueling Stops to a Minimum**

At many other points on the railways, where similar facilities have been provided, valuable minutes in road time are being saved. At Creston, Ia., and Hastings, Neb., on the Burlington, for example, at each of which points combined main-line fuel, water and sanding stations have been built recently, each station effects an average saving of 30 minutes delay to every freight train that passes it, the two stations combined resulting in a total saving of one road hour for each freight train operating between Chicago and Denver.

Where fuel and water stations cannot be combined, each is treated separately in the interest of stops of minimum duration, as is evidenced in the increased delivery rate being afforded at important water stations through the provision of larger storage supplies and the use of larger water columns. In the days of 7,000 to 12,000-gal. engine tanks and less demand for speed, a water delivery rate of 1500 gal. a min. was considered highly satisfactory, but today, with main-line engine tank capacities in excess of 24,000 gal., most roads are increasing this delivery rate appreciably, several employing equipment at important points with a delivery rate of

4,500 gal. a min. and more, which is saving as much as ten minutes per stop over earlier equipment.

### Better Water for the Iron Horse

As every railroad operating and motive power man knows, also, the dependability of locomotive boiler water supplies and the quality of the water have assumed largely increased importance with the increased tempo of freight transportation, failure in either of these respects being as serious in causing delays as a physical bottle neck anywhere on the line or in terminals. Accordingly, to an extent greater than ever before, the railways are seeking more dependable supplies of the best quality water, especially in those areas affected by droughts; they have relocated and enlarged hundreds of stations, providing modern pumping equipment and adequate treating facilities to meet the changed and more stringent demands of present-day operation.

The importance of these improvements is better appreciated when it is realized that the railways use in excess of 437 billion gallons of water a year for locomotive boiler purposes, and that without the scientific treatment of a large proportion of this water, modern train operation would be impossible, because of delays due to engine failures, excessive inspections and repairs. Today, the railways, through treatment, are taking more than 180 million pounds of scale-forming solids and other impurities out of their locomotive boiler waters every year; have more than doubled the availability of their power for road service through reduced shopping time for boiler repairs, and, at the same time, have reduced road delays due to locomotive failures to a minimum.

With delays due to engine failures ranging from 1 to 3 hr. per failure, the importance of this factor alone is readily appreciated, and the improvement that has been and is being made is shown in the record of the Western lines of the Illinois Central, where, since 1920, engine failures due to water conditions have been reduced from 1 per 5,000 locomotive miles to 1 per 10,000,000 locomotive miles.

On top of all this, the provision of dependable high-grade freight service extends to the design and maintenance of every building structure involved in the receipt, transfer, storage and delivery of freight, not alone to insure its most expeditious handling, but also to insure its full protection against theft and damage from whatever cause. Recognizing this, freight house facilities are being modernized or rebuilt to meet the new conditions—to permit the most extensive use of truck and trailer handling; to shorten hauls; to simplify classification; and to speed up loading and unloading in the case of both cars and inbound and outbound delivery trucks.

To these ends and to protect shipments, many floor layouts are being revised to minimize restrictions to trucking; modern doors, providing wide, full-opening passageways and unrestricted floor space, are replacing smaller doors of less substantial design; floor areas are being paved with more durable materials to simplify trucking and to minimize interference caused by routine maintenance; and roofs are being given increased attention to prevent damage to shipments due to leaks. All of these factors are seen in the new Thirtieth Street freight house of the New York Central at New York; in the new l. c. l. freight-handling facilities of the Milwaukee at Galewood, Ill. (Chicago); and in the new perishable produce terminals that have been constructed by the railways within the last two years at Denver, Colo., Kansas City, Mo., Minneapolis, Minn., and other points.

The foregoing indicates unmistakably that those in charge of the fixed properties of the railways are alive to the many new problems of their industry in this "new era" of freight transportation, and that they, restricted only by earnings, can be counted upon, individually and collectively, to do their part to meet the new demands in the greatest interest of shippers.

**Many Freight Houses Are Being Modernized and Re-equipped to Meet the Demand for Quicker Deliveries**

# Modern Signals

**Power Switches and Car Retarders Expedite the Operation of Freight Classification Yards**

SHIPPERS employ railways to move their products from one point to another and, aside from the time required for loading and unloading, they are interested in a freight car only as it is in motion, carrying their shipments to the destinations. When a car is standing still in a terminal or in a train on a passing track on the road, it is defeating the purpose of the shipper in exact ratio to the delay encountered, especially today when industry is geared at a faster tempo than ever before. Any facilities that tend to reduce delays to car movement in terminals or on the road are of immediate interest to shippers and promote the use of the railways rather than competing forms of transportation.

No recent development in railway facilities contributes more directly to the elimination of delays in the movement of freight than signaling in its various forms, including centralized traffic control for movement on the road, and the improvement in facilities for moving cars through yards, such as car retarders, communication systems and floodlighting. The last twelve months has been particularly fruitful in the installation of such devices to eliminate delays.

Centralized traffic control, including power switches, has been so improved, and simplified arrangements have been so developed for use with hand-thrown switches, that it, including only the signals for directing train movements, can be and is being used to replace time-table and train-order operation, thereby markedly reducing delays to freight trains. New forms of two-way communication between yard enginemen and the hump-master in terminals equipped with retarders, such as the installation the Louisville & Nashville placed in service at DeCoursey, Ky., last November, reduce delays to cars being classified. The important result accomplished by these various modern signal facilities is to reduce the time during which cars are not in motion when enroute between remote termini. The transportation of railroad freight traffic is, therefore, emerging into a new day in which the average overall "time-speed" of cars is more closely approaching the road speed of freight locomotives.

### Safe and Expeditious Operation

Safety of train operation is still paramount, not only from the standpoint of preventing injury or death of persons, but also from the standpoint of eliminating damage to lading and equipment. This safety is provided by automatic block signaling. However, an additional advantage of this form of protection is that following trains can be operated safely at closer intervals, thus reducing delays. In recognition of this advantage, signaling was installed on approximately 1,340 miles of lines not previously so equipped during the past year.

# Speed the Shippers' Freight

Automatic block and centralized traffic control on the main lines; power switches, car retarders, communication equipment and flood lights in yards, keep the cars on the move

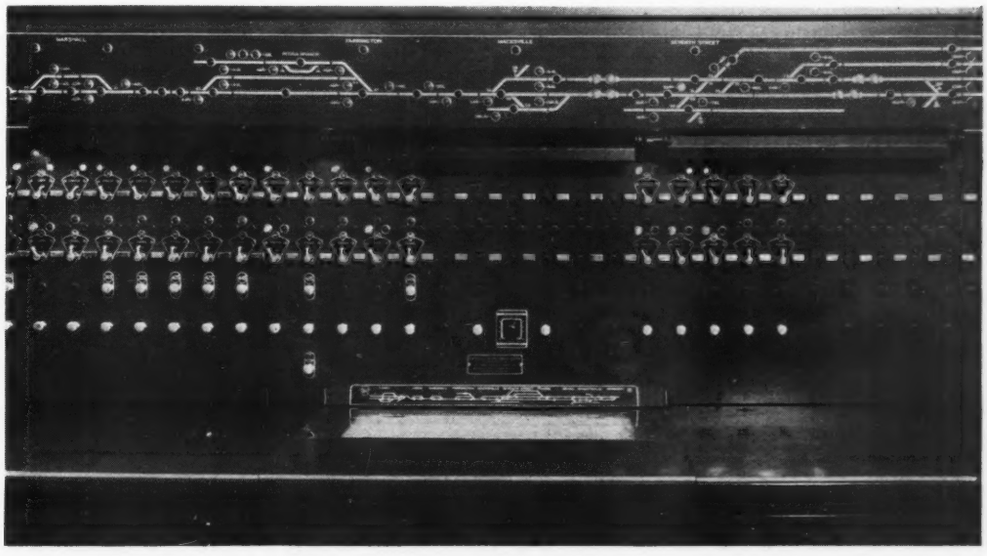
Of equal importance is the fact that many of the roads are reconstructing existing signaling, using modern light signals, respaced to provide efficient operation of trains, especially those handling freight traffic.

Extensive programs of this nature have been completed within recent months, and other projects are now under way on various roads, including the Louisville & Nashville, the Southern, the Union Pacific and the Chicago, Indianapolis & Louisville. A special feature of some of the latest automatic signaling installations is the use of non-stop permissive signals to replace those which formerly required a train to stop before proceeding into a block with caution. Two roads have made such installations recently and others are under way.

In automatic block signaling territory, trains are ordinarily authorized to move from one station to another by authority based on time-table rights, and if some train is running late or if extra trains not listed on the schedule are operated, train orders are issued which authorize trains to move at variance with time-table rights. In previous years, passenger trains have been given preference, freight trains being required to wait on passing tracks to permit the passenger trains to proceed without delay. The standing delays to freight trains were not normally excessive except when other trains encountered unexpected delays. But when one or more trains lost time, the co-ordination of train movements established by the time-table or as planned by the dispatcher's train orders, was seriously disrupted, for orders could not be changed quickly to direct trains on passing tracks to advance, although adequate idle track and time might be available to permit such trains to be advanced one or more stations.

These delays to freight trains are being minimized on extended territories of many roads by installing centralized traffic control, by means of which a man in charge of a control machine at a central point has control of power machines for operating the switches, as well as signals, the aspects of which direct train movements without time-tables or train orders, over an extended territory or an entire subdivision. On lines with two or more tracks, train movements can be handled in one direction on each track or in either direction on one or more tracks, while on single-track lines trains are, of course, operated in either direction by signal indication. During the last year, a number of railroads, including the Pennsylvania, the Missouri Pacific and the Delaware & Hudson, took steps to reduce delays to trains on road by making important installations of C. T. C., while other projects of this nature are now under way on the Denver & Rio Grande Western; the Chicago, Milwaukee, St. Paul & Pacific; the Canadian National; the Southern Pacific; and the Pennsylvania.

Although the first installation was made less than 15 years ago, more than 2,000 miles of busy main lines are now equipped with centralized traffic control. Under this system of operations, train movements are being directed as of the minute, rather than by train orders which may have been set up hours previously. Every idle piece of track or period of time can be utilized to keep trains moving. They roll into and out of passing tracks without stopping for hand-operated switches to be thrown. With passing tracks longer than train lengths, and with No. 20 turnouts, approximately 50 per cent of the meets can be made without either train being stopped. Installations now in service have proved that on territory where the traffic is such that centralized traffic control is needed, the installation of such facilities is saving an average of 1 to 1.5 minutes per mile for each freight car moved in through trains. In other words, while 120



**Power Switch Machines and Signals on 69 Miles Are Controlled From This Centralized Traffic Control Machine**

Power Switch Machines Reduce Delays to Freight Trains

miles of C. T. C. is in service on the route of a car between termini, that car can be set out at the delivery point at least two hours sooner than if such signal facilities were not in service.

In the United States, Canada and Mexico, there are now approximately 177 centralized traffic control installations in service, totaling about 2,000 miles of line. With the exception of a few projects, such as that on a complete subdivision of 112 miles on the Burlington, the majority of these C. T. C. installations were made on sections which previously were bottlenecks or tight spots on divisions. Complete centralized traffic control, including power switches and signals for directing train movements, constitutes a major improvement involving a considerable expenditure. In view of the financial limitations that have confronted the roads during the last decade, they have done well to have installed 2,000 miles of C. T. C. The increased earnings during the current year, coupled with the growing necessity for reducing train delays, will encourage the railroads to make more such installations.

### C. T. C. On More Lines

In the meantime, steps are being taken to minimize freight train delays involved in time-table and train-order operation where hand-throw switches remain in service. Simplified signaling arrangements and control schemes have been developed for the control of semi-automatic signals, the indications of which direct train movements without the necessity for time-tables and train orders, the hand-throw switches being used as before in ordinary automatic block signaling. This arrangement gives promise of the practical equivalent of centralized traffic control on extended mileages. In brief, the number of office-controlled semi-automatic signals at a passing track can be reduced from eight to six. Furthermore, indications on the control machine can show continuously the locations of trains on the main line, as well as the direction in which they are moving.

A circumstance of importance is the fact that numerous railroads now face the necessity of making large expenditures for relocating automatic signals on account of increased train speeds and braking distances, as well as to comply with the requirements of the Interstate Commerce Commission's new signaling regulations. In some instances, consideration may lead to a conclusion that simplified semi-automatic signaling may be installed at a cost not much greater than that previously planned for relocating the automatic signals. The advantage, of course, is that time-table and train-order operation will be replaced with train operation by signal indication, thus materially reducing delays, especially to freight trains.

### Cab Signaling

Another development of the last few years which is gaining increased recognition is cab signaling, by means of which signal aspects are displayed in the cabs of locomotives, a decided advantage in expediting train movements, especially in territory where storms and fogs obscure the wayside signals. Another advantage of cab signals is that a less restrictive aspect is displayed as soon as a train ahead clears a block or gets into the clear on a siding. On-time performance and improved service, therefore, result.

While such installations have been in service on various roads, including the Chicago & North Western, for years, other roads are now making them, including the Pennsylvania which extended facilities of this character on 50 miles of double-track line between Conpitt Junction, Pa., and Kiskiminetas Junction last year.

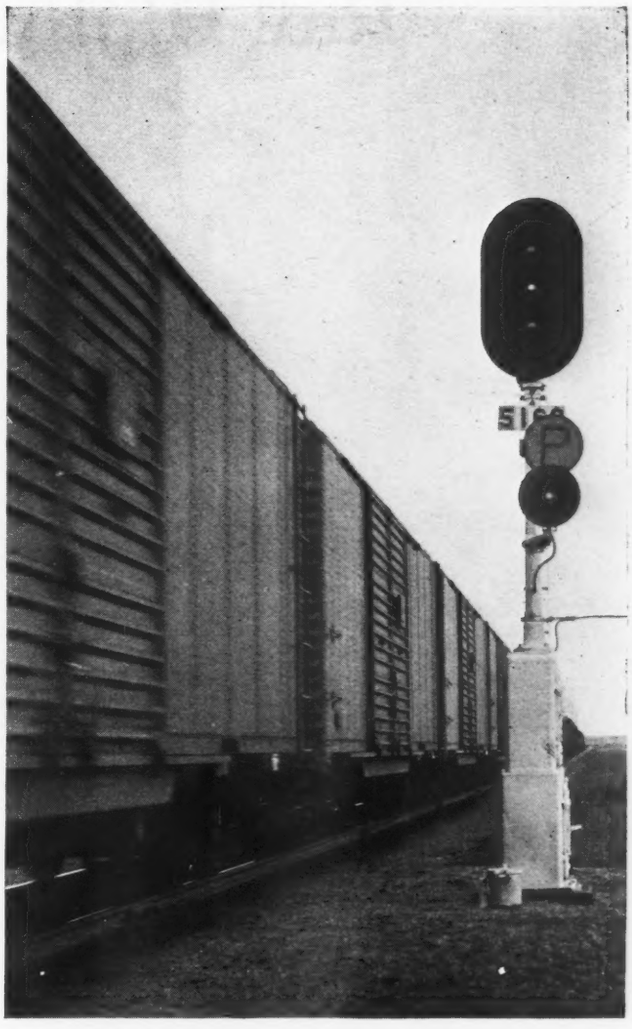
Modern freight classification yards of the gravity type are now largely equipped with power switches and car retarders, by means of which a man in a tower operates the switches to direct cars to the proper tracks as they roll down the hump, and also controls the speed of the cars so that they couple to the cars already standing on the track but do not strike with sufficient force to damage

the lading. Power switches and retarders increase the capacity of a yard to classify cars; furthermore, a yard can be operated 24 hours a day with minimum operating expense, for which reasons cars can be classified promptly as received, without extended waiting in a receiving yard. Furthermore, trains are now being made up and depart directly from the yard tracks, without being moved to a departure yard, as was the practice previously.

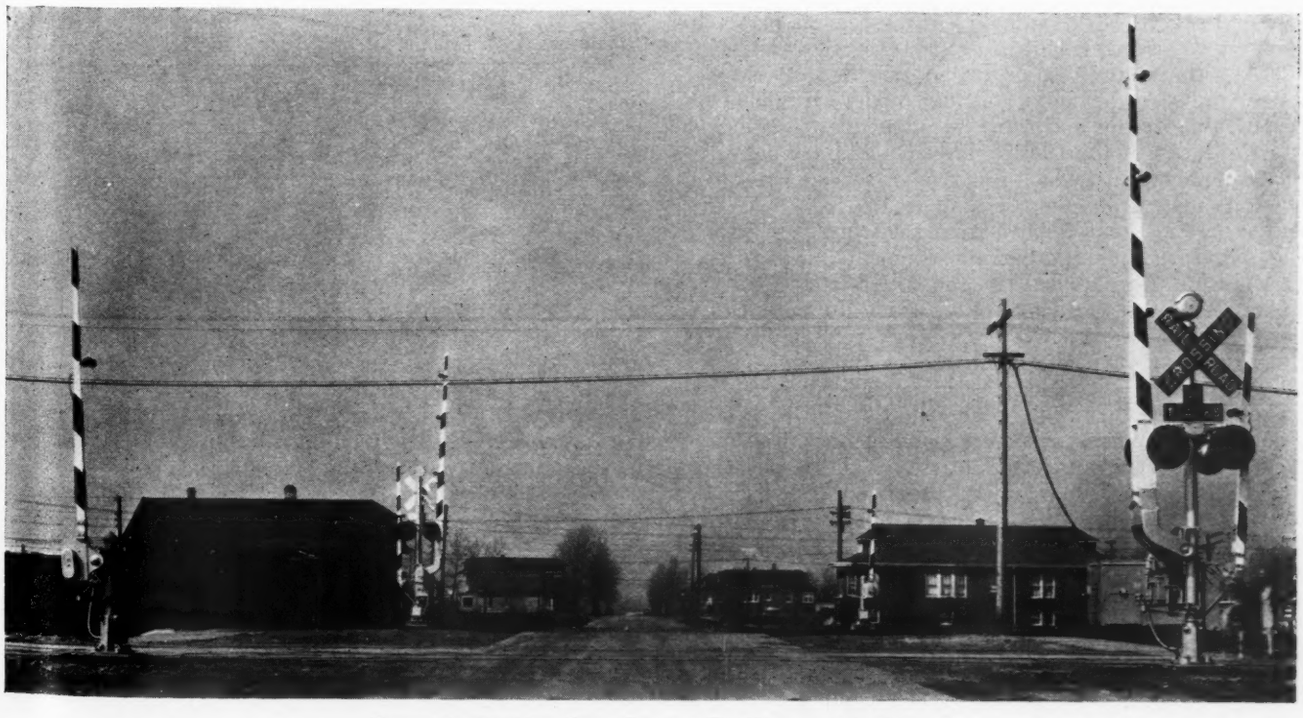
Various forms of telephone communication are being provided to an increasing degree for use between men on duty at different points in a yard, as well as between the humpmaster and the enginemen of the locomotives which push cars over the hump. Likewise, electric floodlights are being installed more generally to illuminate the yards and enable operations to be handled more safely and expeditiously during the hours of darkness.

As a result of these various forms of yard improvements, cars which previously lost 24 hours or more while moving through terminal areas, are now going through two classification yards, as well as an intervening 10-mile connection, and are on their way again in road trains within not more than three hours. Following the installation of retarders in one yard, cars were classified and delivered to industries an average of 1 hr. 45 min. sooner than was possible previously. More than 24 classification yards in the United States are now equipped with retarders, outstanding examples being those at Clearing, Ill., on the Belt Railway of Chicago, and at DeCoursey, Ky., on the Louisville & Nashville, the latter having been placed in service only a few months ago.

Numerous other forms of modern signaling, such as highway crossing protection, contribute to improved operation of freight trains. In the main, however, car retarders in yards, and centralized traffic control with automatic block signals on the main tracks, afford the principal means from a signaling standpoint whereby trains are being kept moving at the speeds for which the locomotives are designed and for which the modern track facilities are good, and are thus contributing to the accomplishment of improved freight service for the shippers.



**New Non-Stop Permissive Automatic Signals Obviate Stops For Freight Trains**



**Automatic Crossing Gates Prevent Accidents and Delays**

# Rail-Highway Co-ordination

**Rail-Highway Co-Ordination Provides Complete Co-Ordination for the Shippers' Freight**

Flexibility of freight train-truck service proving increasingly attractive to shippers

A TOTAL of 686 railways in the United States are today serving more than 10,000 cities and towns with intercity co-ordinated rail-highway service. These railways, of course, include many terminal companies, subsidiaries and short lines, but they also include practically all of the Class I railways and are indicative of the rapidity with which this type of service has spread since its inauguration in the late 1920's.

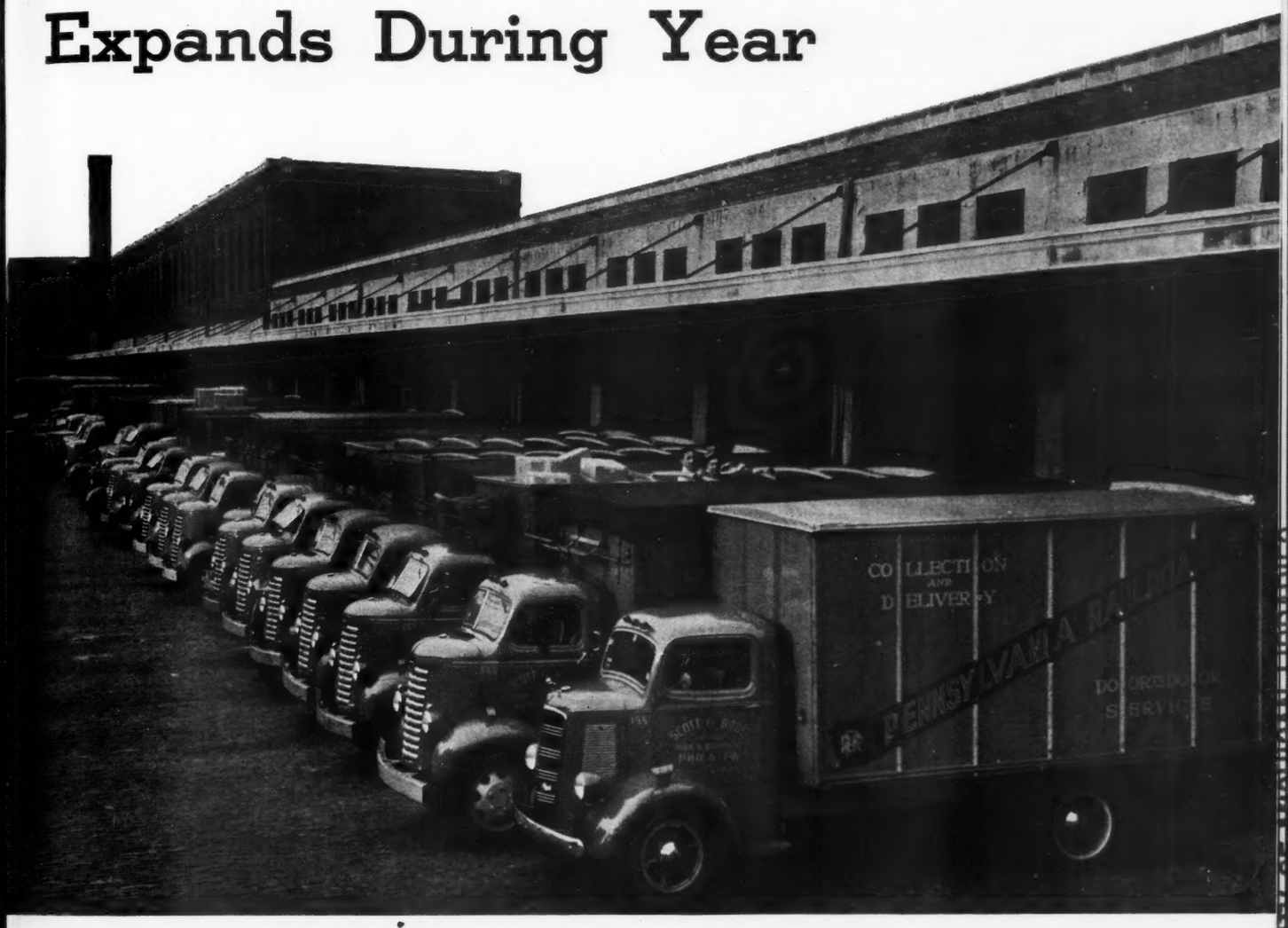
The last 12 months have been particularly fruitful in this regard. Among other developments, the Atlantic Coast Line has applied to the Interstate Commerce Commission and the state commissions for authority to begin a large co-ordinated service in Virginia and North Carolina. The trucking affiliates of the Pennsylvania have materially expanded co-ordinated service in Indiana as well as other states served by the railway system. The Frisco Transportation Company has acquired many new routes in Arkansas and Missouri, the Rock Island Motor Transport Company has expanded in Iowa, Missouri and Texas, and the Chicago & Eastern Illinois has arranged to supply co-ordinated service to 52 local stations in Illinois.

Two railway systems formed by recent mergers, the Kansas City Southern-Louisiana & Arkansas and the Gulf, Mobile & Ohio, have both been very active in paralleling all of their enlarged trackages with highway routes, to establish completely co-ordinated service. The Missouri Pacific has more than doubled its co-ordinated service in Texas and Louisiana, while the Southern Pacific, through purchase, acquired a large trucking company which will serve Oregon in conjunction with the rail lines. This railway's trucking affiliate has also expanded its routes in California and Arizona.

The use of motor trucks in conjunction with fast freight trains is bringing local stations on many railroads as close to jobbing and distributing centers as the larger cities are. Schedules to many such local stations are today showing savings in time of 24 to as high as 96 hr., and this improvement in service is being matched by improvements in operating efficiency. By the use of trucks from and to designated concentration and distribution points, it is becoming possible also for the railways to improve their schedules materially between distant terminals by avoiding frequent stopping of through trains to pick up or set out freight at local or intermediate stations.

Rail-highway co-ordination, effective and efficient along the main line, is proving to be even more of an improvement in serving branch line stations, by avoiding the rehandling of merchandise through junction points. Freight so handled is now being peddled along the branch lines by trucks within minutes, or at most an

# Expands During Year




**Collection and Delivery Service Requires a Large Fleet of Trucks in the Big Cities**

hour, after it arrives at the junction point, instead of having to wait for the often infrequent branch line trains.

This form of railway service is relatively new, but it is having an amazingly rapid growth. Only the adverse attitudes of some state commissions and, occasionally, of the Interstate Commerce Commission, have retarded its universal use. One of the stumbling blocks has been the rigid requirement of the Interstate Commerce Commission that all freight handled by railway trucks must have a prior or subsequent rail haul. This has the effect of forcing the railways to give service by both train and truck in many instances, which condition has deprived both the shippers and the railways of the advantages inherent in co-ordinated service and stunted its growth materially. Only a few months ago, however, in a decision that may become of far-reaching importance, the Commission held, in a case involving the Kansas City Southern, that this restriction was uneconomic and undesirable. The effect of this on the future growth of this type of service is already marked and should result in a further rapid expansion of the service.

Various methods are being adopted by different railways in installing such service. Some are organizing wholly-owned trucking subsidiaries, whose operations are controlled by railway officers. Others are using the highway services of the railway-owned Railway Express Agency, which, through years of operation of one of the largest truck fleets in the country, has wide experience in the field. Still others contract with outside agencies to perform this service.

All of the systems, however, have the one underlying objective of making railway handling of merchandise faster and more convenient and hence more attractive to shippers. That they are succeeding in this is evidenced by the experience of several railways whose l. c. l. traffic has increased as much as 300 per cent following the installation of rail-highway co-ordinated service.

Several interesting "by-products" of this type of service are being developed. For instance, several railways in the East are regaining milk traffic through the use of interchangeable truck-car milk tank bodies. Certain other roads have undertaken to ferry loaded trailers between congested terminals on flat cars. Notable among the roads installing this system in the last year are the New York, New Haven & Hartford, between New York and Boston, and the Chicago, Burlington & Quincy, between Chicago and Kansas City.

Another method of improving service by the use of highway trucks is being developed rapidly. This involves the interchange of merchandise traffic between stations of different railways in the same terminal by motor truck instead of by trap or ferry cars. This not only saves equipment for the railways, but also speeds the movement of l. c. l. traffic through terminals, which was formerly a most fruitful source of delay.

Although the use of motor trucks for pick-up and

The Missouri Pacific Has Vastly Increased Its Trucking Services This Year

delivery service has been universal for some time, the fact that 686 railways are now operating motor trucks in intercity service is indicative of the spread of this further co-ordinated activity. Various summaries and surveys have been made of rail-highway co-ordinated service from time to time, but the authentic and complete information on which this article is based has become available only within recent weeks.

As an example of the amazing recent growth of this service, a tariff was issued on December 15, 1940, showing all stations in the country having co-ordinated rail-highway service. Between that date and April 15, 1940, it was necessary to issue *ten* supplements to this tariff, listing additional stations. In these four months, 638 new stations, in 19 states from Maine to California, were added to the thousands of other stations that were already receiving the rail-highway service.

## Activities of Individual Railways

The principal railways operating large scale co-ordinated services, with details of the operation, are listed below:

*Atchison, Topeka & Santa Fe:* Through the Santa Fe Trail Transportation Company, this railway is now serving 222 stations in Kansas, Oklahoma and Missouri. It is also serving 27 stations in Kansas through the Santa Fe Transportation Company of Delaware. The Santa Fe Transportation Company of California now serves 28 stations in that state and three contract truckers are serving 19 more stations in California for this railway, a total of 296.

*Baltimore & Ohio:* This railway is now serving 77 stations from Maryland to Ohio, using contract truckers entirely.

*Boston & Maine:* Through its subsidiary, the Boston & Maine Transportation Company, is serving 104 stations in Massachusetts, Maine, New Hampshire and Vermont.

Trucking on the Katy in Kansas

*Chesapeake & Ohio:* Through the Railway Express Agency, this railway is serving 72 stations in West Virginia, and 2 in Kentucky under arrangements with a contract trucker.

*Chicago & North Western:* This railway is now serving 271 stations in several states, including 74 stations in the Chicago area, through contract truckers, and several stations in the upper Michigan peninsula by the Railway Express Agency.

*Chicago, Burlington & Quincy:* The Burlington Transportation Company, plus two small contract operations, is giving 235 stations the benefit of rail-highway service.

*Chicago, Rock Island & Pacific:* The Rock Island Motor Transit Company, a wholly-owned subsidiary, is serving 242 stations on this railway.

*Denver & Rio Grande Western:* This railway's subsidiary, the Rio Grande Motor Way, is now handling freight by highway to 391 stations in Colorado, Utah and New Mexico, while contract truckers are serving 59 additional D. & R. G. W. stations in Colorado.

This Big Fellow Handles Freight Across the Montana Mountains for the N. P.

*Great Northern:* Trucks are now being operated by this railway to 24 stations in Minnesota and eastern North Dakota, to 4 in Oregon and to 66 stations in Montana.

*Gulf, Mobile & Ohio:* The Gulf Transport Company and the Mobile & Ohio Transportation Company, both wholly-owned subsidiaries of this railway, serve a total of 197 stations.

*Illinois Central:* This railway offers co-ordinated service to 63 stations in Illinois and 3 in Alabama.

*Kansas City Southern - Louisiana & Arkansas:* Through its subsidiaries, the Kansas City Southern Transport Company, the Louisiana, Arkansas & Texas Transport Company and the Landa Motor Lines, this railway offers rail-highway co-ordinated service to 433 stations.

**Burlington Trucks Are as Modern As the Zephyrs**

*Long Island:* This railway offers service to 90 stations through the Railway Express Agency.

*Missouri-Kansas-Texas:* This company operates trucks to 51 stations in Kansas.

*Missouri Pacific:* This railway, through various agencies, including the Missouri Pacific Freight Transport Company, gives co-ordinated service to 855 stations along its lines.

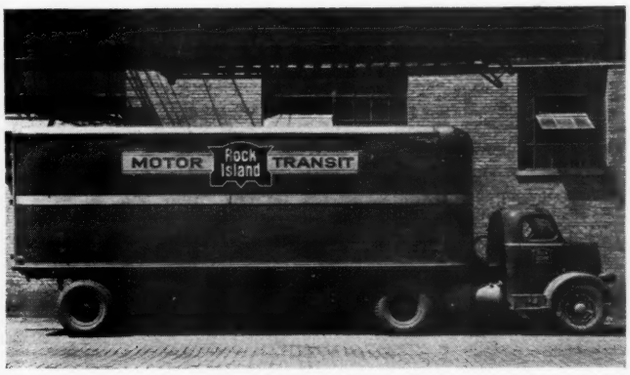
*New York Central:* Through 19 contract truckers this railway offers co-ordinated service at 224 stations.

*New York, New Haven & Hartford:* This railway's subsidiary, the New England Transportation Company, operates trucks to 428 stations in the territory served by the railway.

*New York, Ontario & Western:* This railway uses two contract truckers to serve 64 stations along its line.

*Norfolk Southern:* This railway's highway subsidiary serves 62 stations along the line.

*Northern Pacific:* Confining its co-ordinated services as yet wholly to Montana, this railway operates trucks




**The Rock Island Is Steadily Enlarging Its Co-Ordinated Service**

to 152 stations, through its subsidiary, the Northern Pacific Transport Company.

*Pennsylvania:* This railway has a very large co-ordinated service, which includes 1,472 stations, of which 739 are served by the Pennsylvania Truck Lines. Scott Bros. and the Willett Company serve a large portion of the remainder.

*Pittsburgh & Lake Erie:* One contract trucker serves 72 stations for this railway.

*Reading:* The Reading Transportation Company gives co-ordinated service to 135 stations on this railway.

*St. Louis-San Francisco:* This railway gives highway service to 269 stations along its lines, 136 of which are served by its subsidiary, the Frisco Transportation Company, and the others by contract truckers.

*St. Louis Southwestern:* The Southwestern Transportation Company gives rail-highway co-ordinated service to 154 stations along this railway.

*Seaboard:* This railway gives co-ordinated service to 310 stations on its lines, 21 stations in North Carolina being served by the Railway Express Agency.

*Southern Pacific:* The large co-ordinated service of this railway now comprises 1,302 stations, the majority

**The Rio Grande Conquers Heavy Highway Grades With These Sturdy Trucks**

of which are served by three large subsidiaries, the Pacific Motor Trucking Company, the Pacific Truck Express and the Southern Pacific Transport Company.

*Texas & Pacific:* The Texas & Pacific Transport Company is serving 323 stations on the T. & P. and its railway subsidiaries.

*Union Pacific:* Various contract truckers give 50 stations on the U. P. the benefit of co-ordinated service.

### The Extent of the Service

Summarizing the foregoing, it is found that the 29 principal railways that are today operating co-ordinated highway operations are providing this service to 8,560 stations. Other railways serving from 25 to 50 stations each include the Atlanta & St. Andrews Bay; the Baltimore & Eastern; the Central of New Jersey; the Central Vermont; the Chicago & Eastern Illinois; the Chicago, Milwaukee, St. Paul & Pacific; the Columbus & Greenville; the East Tennessee & Western North Carolina; the Erie; the Lehigh Valley; the Louisville & Nashville; the Monongahela; the Northeast Oklahoma and the Sacramento Northern.

In all, well over 10,000 stations are today receiving the benefit of rail-highway co-ordination. The blank spaces remaining on the map are there largely because of the adverse position taken by certain of the state commissions toward this form of railway service. Some of these commissions have been known to refuse railway applications even when they were supported by 95 per cent of the shippers and receivers in the territory affected.

The railways were somewhat slow in recognizing their true function as a complete transportation machine,

equipped to render the type of service the shipper wants. Now that they have discovered it, they are exerting every effort, despite adverse regulation, to make up for lost time. That they are making progress is indicated by the remarkable growth in rail-highway co-ordinated service during the last year, as portrayed in this article.

## What Motive Power For Modern Freight Trains?

(*Continued from page 928*)

Following the service trials of the 5,400-hp. Electro-Motive freight locomotives on a number of railroads last year, orders have been placed for eight of these powerful locomotives by two western, and one southern railroad. Two others of half that capacity and five 4,000-hp. Diesel-electric units have also been ordered by two railroads, one in the west and one in the east, for use in both freight and passenger service.

The first of five such locomotives ordered by the Atchison, Topeka & Santa Fe made a run from Kansas City, Mo., to Los Angeles, Calif., in February, when first placed in service. This locomotive is equipped with dynamic braking which serves to ease the train down heavy grades, with a substantial reduction in the number of air-brake applications, less brake-shoe wear, and less wheel heating. During this run the locomotive developed a maximum drawbar horsepower of 4,400, averaged 32.5 miles an hour over the trip, and operated at a maximum speed of 65 miles an hour. The train load varied from 49 to 68 cars and on the trip produced 5,171,000 gross ton-miles over a distance of 1,762 miles. The fuel consumption averaged 6.15 gallons per mile and 0.0542 gal. per million ft.-lb. The total energy absorbed by the dynamic brake during its use on this run was approximately 10 per cent of the energy used to move the train during the entire run.

In selected services where the opportunity for higher-than-average annual mileages will justify the higher investment per unit of power capacity, it will probably find ready application. Factors involved in the economic problem include both the commercial and cost aspects of fuel economics, water conditions, maintenance, and utilization. The effect of some of these will vary from time to time and from place to place. In the matter of utilization, the stimulus of the Diesel-electric may, indeed, have a favorable influence on steam locomotive practice so that the capacity for greater sustained service which steam motive power has demonstrated may be more fully realized.

The number of locomotives ordered during 1940 was the largest of any year since 1929 and, of the 694 which were ordered for domestic service, 462 were Diesel-electrics or other internal-combustion types. Three hundred eighty-two of the Diesel-electrics—more than half of all of the locomotives ordered—were for switching service. The largest number of these locomotives falls within the 100-ton group with 600- to 660-hp. capacity. An appreciable number of the Diesel-electric switching locomotives ordered last year, however, were in the lightweight class of less than 50 tons, and it is interesting to note the marked increase in the relative number of locomotives in this group which have been ordered since the first of the present year—almost one third of all the Diesel-electric switching locomotives for use by the railroads. The possibilities for economy which these lightweight units afford are opening up assignments for them which heretofore have been considered as legitimately in the field of the higher-capacity switching locomotives.

## The Railways in Near-War Time

(*Continued from page 925*)

track to serve them. The S. P. has added several local freight trains between San Luis Obispo and Watsonville Junction to serve camps, as well as at the Mare Island Navy Yard on San Francisco Bay. The U. P. has installed additional switching service at Ft. Riley, Kan., and Camp Funston, also at Denver, Colo., and Long Beach, Calif. The Wabash lent one of its purchasing officers to the government to aid during the emergency in buying materials for camps. Almost without exception, all the other railways have contributed unusual services to the defense program.

Besides all this, the railways are co-operating actively in the Military Railway Service, of which Colonel Carl R. Gray, Jr., executive vice-president, Chicago, St. Paul, Minneapolis & Omaha, is manager. In the event of war, this branch of our armed forces would be activated for the communications zone in any theater of operations and would be used to operate and maintain railways forward of the area in which commercial operations would be allowed to continue.

As at present established, the Military Railway Service is no longer on the regimental basis of the last war. It consists of one Engineer Headquarters, Railway, comprising 24 commissioned officers and 216 enlisted men; 5 active and 5 inactive Engineer Headquarters, Railway Grand Division, each consisting of 24 commissioned officers and 74 enlisted men; 20 active and 22 inactive Engineer Battalions, Railway Operating, each consisting of 21 commissioned officers and 820 enlisted men; and 3 active and 3 inactive Engineer Battalions, Railway Shop, each consisting of 23 officers and 658 enlisted men. The railways with whom these organizations are at present affiliated have agreed to supply the necessary commissioned officers and certain key enlisted men as well.

At present, 18 railways are sponsoring 28 battalions. One of these, the 711th (Missouri Pacific) will take over the operation of the Red River & Gulf, recently purchased by the government for the purpose, about June 1 of this year. The volunteer officers for this battalion have already reported for preliminary training at the engineer school, Fort Belvoir, Va. The policy of the War Department is to have the Military Railway Service officered by practical railway officers.

### Splendid Service to Continue

The quarterly forecasts of business made by the Shippers Advisory Boards have been remarkably accurate and have been of material assistance in enabling the railroads to prepare in advance for expected traffic. The shippers throughout the country have been extremely helpful to the railroads in increasing car efficiency through heavier loading and in more careful attention to placing orders for equipment. The work of the Advisory Boards continues to play an increasing part in the effort of the railroads to produce satisfactory and efficient transportation service. The importance of these forecasts and other data as to prospective car loadings cannot be overstressed. The railways are competent to do any transportation job, and do it well, even when unforeseen emergencies arise. When, however, they are in possession of advance information as at present, the smoothness and efficiency of the job can be materially enhanced. The railway industry may look confidently toward whatever the future may bring. It has prepared, is prepared and will continue to prepare for the immensely important role it will be called on to play in national defense.

# Faster Schedules Justify Grade Reductions in Yards

By K. A. Bornstrager*

IT is conceivable that measures can be taken to reduce rough handling to almost a negligible quantity. However, these measures may involve increases in operating expenses that will more than offset the savings achieved in the reduction in claims. In other words, the cure may be worse than the disease. Furthermore, the improvement in rough handling might carry with it delays in car handling that would have a more serious effect on us traffic-wise than what we now experience.

With our rough handling performance and freight claim payments approaching what would almost seem to be an irreducible minimum, and with pressure still exerted upon us by shippers on account of rough handling, it is time to ask ourselves two very important questions, namely: 1. What is the fundamental cause of rough handling? 2. What steps can be taken to remove or reduce the causes of rough handling?

The answer to the first question is simple. Thousands of impact register tests have established the fact that about 95 per cent of the excessive impacts occur in yards, not in road haul. The fundamental cause of rough handling is, therefore, the coupling of cars at excessive speeds. Excessive speed is any speed above four miles per hour.

The answer to the second question is not so simple. However, in making an approach to it, we can state that the problem divides itself into two parts, namely: 1. Education and training employees in proper methods of switching, and 2. Improving the facilities or tools which we furnish our employees to do the job.

Our experience indicates that the major portion of past improvement has been accomplished under the first heading. However, when we examine the information disclosed by impact registers, we find that there are quite a number of points where our handling performance, month after month, is unsatisfactory and shows little, if any improvement over a period of time. Where yards persistently show impact register performances two or three times worse than the average yard performance, without any evidence of laxity on the part of yard employees, it is clearly apparent that something is wrong with the physical layout of the yard.

## Improper Grades Cause Most Damage

When we study the situation in the yards that persistently show poor performances, we almost invariably trace the fundamental difficulty to one major cause, namely, improper grades. The question naturally arises, "What is a proper grade for switching?" The correct answer affords the solution, not only to the rough handling problem, but to other collateral problems. A proper switching grade is one on which the average loaded car, under normal summer conditions, will maintain a given speed, i. e., will not accelerate. If grades are too steep, cars released will accelerate and if the distance traveled is at all appreciable, the coupling will be made at too high a speed and rough handling will result. When the trouble caused by steep grades is too serious, compromises are made, such as restricting the use of the track to a short distance to limit the run of the car, or the use of extra brakemen to ride heavy loads, or a combination of both.

These troublesome grades are usually found in large and important classification yards where the speed of operation is a very important factor, and it is readily apparent that the makeshift methods just described, seriously slow up switching operations since (1) cars must be released at very low speed to minimize rough handling; (2) restricting the use of classification tracks to short lengths requires that the tracks be frequently "shoved" to make room for more cars, thus delaying classification work; and (3) restricting the cars to one end of the yard causes switch engines to travel excessive distances when cars are doubled from the opposite end of the yard. It is evident that the rough handling problem is a great deal broader than is usually assumed and that it ties in directly with yard operating costs and service, so that instead of one problem there are three. Correction of the trouble necessitates revision of grades, which frequently involves the expenditure of a considerable amount of money. It is difficult to justify this expenditure at any one point on the basis of damage from rough handling since a high percentage of claims cannot be allocated to any particular yard or even any particular railroad. However, a broader approach to the problem develops ample justification from a yard-operating cost and service standpoint. It is advisable to make comparisons of operations in the yard under consideration with those of other yards having similar operating conditions but proper grades, for such comparisons frequently justify expenditures from a yard cost standpoint alone.

## Can Reduce Cost of Handling Trains

Such comparisons usually develop that there is the possibility of appreciable saving in the time required for handling trains through the yards. To evaluate such time saving is of course rather difficult. On the other hand, all operating men know how hard we fight to save a few minutes on the road. On important sections of our lines where traffic is dense, we frequently spend large sums of money to keep slow orders off of our main tracks that result in 10 or 15 minutes delay.

It is very possible that switching conditions in some yards are slowing up every train handled through the yard twice the above amount when the yard is operating at capacity. If we are justified in spending money to remove slow orders on the road, we are equally justified in spending money to remove slow orders in the yard when such a fact has been developed. The yard slow order is a bit harder to see, but it is there, nevertheless.

As stated previously, our most serious difficulties occur in our important classification yards and particularly where car-rider-operated humps have been converted into retarder-operated yards. In many of these yards the grade changes were confined to the hump itself and the leads on which the retarders are located. The grades of the classification tracks themselves have usually been left unchanged. These grades will, in general, average about 0.3 per cent and sometimes are as high as 0.4 per cent. While such grades were probably satisfactory in the car rider days, with brakes set on the cars, it has been clearly demonstrated that they are entirely unsatisfactory for the switching of loaded cars under present conditions.

We all know that there is quite a wide variation in the way that various cars perform on a given grade. The question naturally arises as to how we can provide a grade that will be suitable for all cars, loaded and empty,

* Superinendent of the New York Central. From an address made before a joint meeting of the Chicago and the Eastern claim conferences at Buffalo, N. Y.

as we are in almost all cases required to switch both loaded and empty cars on the same track. Manifestly one grade will not fit both conditions. The most satisfactory answer to the problem is found in the definition of "Proper Grade" previously given, namely a grade on which the average loaded car will not accelerate under normal summer conditions.

On such grades, loaded cars can be released at moderate speeds, with the knowledge that they will travel deep in the yard, if necessary, without acceleration. Empty cars, or loaded cars in cold weather, can be released on such a grade at higher speeds, with the knowledge that they will lose speed and excessive impacts will not result. Our experience indicates that a grade of approximately 0.2 per cent most nearly meets the conditions above outlined. A grade of 0.22 per cent is probably most satisfactory for general conditions.

The above is not intended as a blanket indictment of grades in retarder yards as such. There are a number of very satisfactory retarder yards on the various railroads, particularly the most recent installations. However, so long as we find cars moving through our yards bearing cards forbidding humping, we cannot say that all of our yards are satisfactory. A verification of the shippers' aversion for hump switching can usually be found in impact register performances.

In summing up the rough handling situation, it seems to us that we have achieved nearly all we can expect to obtain by tackling the problem along general lines. The best possibilities for future improvement consist in cracking some of the "hard nuts" that have heretofore resisted our efforts. To do this will call for extensive and detailed study of each of the points involved. This study should be made by competent representatives of our claim, engineering, traffic, mechanical and operating departments.

# Communication . . .

## Re-discovering Train Travel

FAIRFIELD, IOWA.

TO THE EDITOR:

An automobile that wouldn't go and an appointment that wouldn't wait resulted in my re-discovering the railroads. I blush to admit it, but I slung my bags on a crack streamliner—I hadn't ridden a train for 15 years—with no little misgiving. I had my feet braced for a very distasteful four-hour trip.

However, I had scarcely plumped myself into a comfortable, overstuffed chair before we started; on time and without a jerk. Catching my breath, I threw a quick glance at my neighbors and hastened to get into my coat too. I should have known that a car with indirect lighting and a color scheme would be air-conditioned. To hide my confusion, I glued my eyes to the window—freshly washed, if you please—and stumbled "smack dab" into a new world. It wasn't strange countryside. I had traveled through it for years, but I *really* saw it for the first time.

Long before dinner I made the acquaintance of several of my fellow passengers—started "chewing the fat" with a country banker and a retired baseball star. We carried our argument on the nation's foreign policy right back to the "swanky," streamlined diner. Wrangled through a delicious meal, beautifully served in delightful surroundings, and strolled back to the smoker a pretty contented lot—the international situation notwithstanding.

The ball player had just begun a fresh yarn when the conductor startled me by calling my station. I could scarcely believe my ears! Was it possible for four hours to pass so quickly? Besides, even a short automobile trip leaves me drooping like a broken lily, and here I was "fresh as a four-year-old." I'm sorry that it didn't happen sooner, but perhaps it's better late than never. At any rate, I've found a better way to travel. I've re-discovered the railroads.

ROY E. MOUNT
ASSISTANT ADVERTISING MANAGER,
THE LOUDEN MACHINERY COMPANY

* * *

**This 4,000 hp. Diesel-Electric Locomotive, Designed and Built By the American Locomotive and General Electric Companies, Left Schenectady, N. Y., Early in May For Delivery to the Atchison, Topeka & Santa Fe. It is Here Shown Being Put Onto a Freight Train For Operation "Dead" to Chicago. It Is Destined for Regular Service on the Super Chief Between Chicago and Los Angeles, Cal.**

# NEWS

## RRs Mustn't Give Too Good Service

### I. C. C. forbids free spotting of cars where they might suit a customer's convenience

Reporting again on railroad services covered by line-haul rates at the Decatur, Ill., plant of the A. E. Staley Manufacturing Company, the Interstate Commerce Commission has refused to permit the proposed cancellation of a $2.50-per-car charge for spotting within the plant at various locations beyond tracks which the commission found to be convenient points for receipt and delivery of Staley traffic. Services rendered under line-haul rates at the Decatur plant of the Mississippi Valley Structural Steel Company were also involved; but those the commission found not unlawful.

The majority report is by Commissioner Patterson; it came after further hearing of issues included in the 55th supplemental report in Part II of the commission's Ex Parte 104 investigation of practices affecting operating revenues and expenses, and it embraces also I. & S. 4736. Commissioner Eastman, concurring, thought it should be made clear that the commission was doing "nothing strange or new," but was "only following a rule which was first laid down nearly 33 years ago in *General Electric Co. v. New York Central & H. R. R. Co.*, 14 I. C. C. 237." Commissioner Mahaffie dissented, stating that in his opinion (to which Commissioner Alldredge subscribed) the suspended schedules had been justified.

"If," said Dissenter Mahaffie, "the 40 elevators, mills and other buildings constituting the plant of the Staley Company were each owned and operated by a separate concern, the railroads would be required to serve each of them at the line-haul rate. The real difficulty here is size. If the size of an industry is hereafter to determine whether it may or may not have terminal service without extra payment, we should immediately establish some uniform standard so that the permissible limits may be known."

Generally, the majority report is a review of Staley's efforts to evolve some arrangement whereby it would obtain under line-haul rates the spotting services which it formerly performed itself with benefit of an allowance. That allowance was condemned in the aforementioned 55th supplemental report in Ex Parte 104; and since that time the spotting services have been performed, first, by the five interested railroads under a pooling plan, and more recently by the Wabash. In December, 1937, as the majority report put it, there was a transformation of the Staley plant from an industry directly served by five different railroads to an industry directly served by but one—the Wabash. Since that date all Staley traffic moved in line-haul service by the Illinois Central, Pennsylvania, Baltimore & Ohio and Illinois Terminal has been interchanged with the Wabash at various points within the Decatur switching limits. Wabash switching charges between those interchange points and the locations which the commission found convenient for delivery and receipt of Staley cars are absorbed by the other roads, while the Wabash charges Staley the aforementioned $2.50-per-car spotting charge which the suspended schedules sought to cancel.

Meanwhile the Wabash leased from Staley a group of tracks called Burwell yard, which is one of the points designated by the commission as convenient for interchange of Staley traffic under line-haul rates. "The lease," said Commissioner Patterson in the majority report, "apparently was designed to lend substance to the Staley Company's contention, supported by the Wabash, that the movement of Staley cars from the general yards of the Wabash to the points of unloading within the plant is direct or without interruption. This could be a fact as to many movements, if Burwell yard could be treated as though it were a part of the general Wabash yards. . . . Since the major use of the tracks are special in character they properly may not be treated as general Wabash tracks." Later on the commission said that the arrangement whereby Staley became a one-railroad industry "was substituted for the pool arrangement solely because the Staley Company finally became convinced that it could not obtain free spotting under the pool arrangement."

### New High in Average Load Per Car of Carload Freight

A new high record in the average load per car of all freight transported in carload lots was established by Class I railroads in 1940, according to the Association of American Railroads.

In that year, an average of 37.7 tons per car for all commodities carried in carload lots was attained. This was an increase of nine-tenths of a ton, compared with the previous record established in 1939. The increase of nearly one ton in the average load was equivalent to the addition of 26,000 freight cars to the available car supply, the A. A. R. said.

## Train Help Want 30% Pay Boost

### Claim they need extra money for higher living costs, which have gone up only 2.6%

A 30 per cent increase in all basic rates of pay of members of the Big Five operating brotherhoods will be demanded on June 10. Decision to "launch a national concerted wage movement requesting a 30 per cent increase in all basic rates of pay, with a minimum money increase of $1.80 per day," was made at Chicago on May 19, following a three-day meeting of the general chairmen of the five transportation organizations representing all men employed in engine, train and yard service on railroads in the United States. The 30 per cent increase will also apply to all arbitrary and miscellaneous rates, including special allowances and daily and monthly guarantees. The railroads will receive formal notice of the demands, pursuant to the provisions of the Railway Labor Act and current agreements, on June 10, 1941.

Demands for a basic wage increase became so urgent in the course of the various committee and joint meetings on May 16, 17 and 18, that it was decided to confine the present request to a wage increase and "hold in abeyance" other matters that had been brought before the meeting for joint action by the five brotherhoods. As a result, train limits, vacations with pay and expenses for roadmen while away from home, are "still in the hopper."

A joint statement issued by A. Johnston, grand chief engineer of the Brotherhood of Locomotive Engineers, D. B. Robertson, president of the Brotherhood of Locomotive Firemen and Enginemen, J. A. Phillips, president of the Order of Railway Conductors, A. F. Whitney, president of the Brotherhood of Railroad Trainmen, and T. C. Cashen, president of the Switchmen's Union of North America, lists four arguments for the pay boost demand as follows:

1. The wages of railway employees are rapidly dropping below wages paid to men in other industries.

2. Soaring prices and the general increased cost of living, including rents and taxes imposed upon employees, are important factors in the situation.

3. In four years the productivity of railroad men has increased 43 per cent without any increase in compensation.

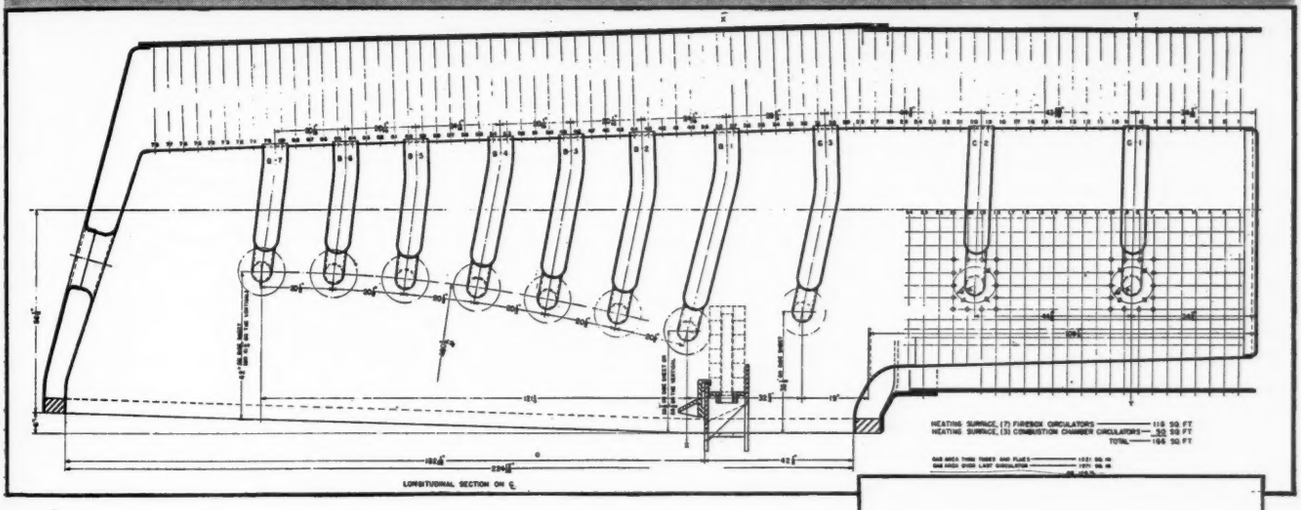
4. Railway employees suffered tremendously from the business depression which

(*Continued on page 961*)



*Continued on next left-hand page*

# BETTER COMBUSTION
## for modern freight locomotives through the application of
# SECURITY CIRCULATORS



The problem of supporting brick arches of unusual length, which is the result of the demand for increased boiler horsepower, has been effectively solved by the Security Circulator, a development of the American Arch Company.

In addition to achieving the original object of improved support many other benefits have accrued. The reduction of honeycombing and cinder cutting lessens the maintenance of the boiler. The Security Circulator itself is extremely low in maintenance costs.

On the Security Circulators that have been installed during the last six years, performance has been thoroughly proved by over 10,000,000 locomotive miles of service.

**Improved Arch Support for the largest fireboxes**

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**Adapted to any type of locomotive**

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**Reduced honeycombing, flue plugging and cinder cutting**

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**Improved circulation in side water legs**

## AMERICAN ARCH CO., INC.

**NEW YORK • CHICAGO** **SECURITY CIRCULATOR DIVISION**

# Would Let R. F. C. Build a Railroad

## Lending agency would be able to put up money needed for defense transportation

Authority for the Reconstruction Finance Corporation "to produce, lease, purchase, or otherwise acquire railroad equipment (including rolling stock) . . . and parts, equipment, facilities and supplies in connection with such railroad equipment" is carried in S. 1438 which was passed by the Senate on May 16. In other words, as it was brought out in debate, the lending agency would get such sweeping powers to finance the defense program that it could build and equip a railroad.

It was suggested by Senator Brown, Democrat of Michigan, that a project in the latter connection might conceivably take the form of providing additional railroad facilities between the Mesabi Range and Lake Michigan, thereby giving the ex-lake iron ore traffic an alternative route bypassing Lake Superior and the Soo Canal locks which might become vulnerable "if an aircraft carrier under the control of an enemy government should get into the south end of Hudson Bay," 600 miles away. With respect to equipment Mr. Brown said that the bill would expand R. F. C. authority so that the government could buy railroad equipment needed for the defense program in case the railroads ("and I think upon sound reason") would not act "because they know that the use for that equipment might cease at any moment."

Although there is no specific provision in that connection, Mr. Brown told Senator O'Mahoney, Democrat of Wyoming, that if the R. F. C. did build a railroad the line would have to be sold after the defense emergency had passed. For his answer Mr. Brown relied upon the bill's general defense objectives, and upon the judgment of the general counsel of the R. F. C. Aside from augmenting its powers the bill would increase by $1,500,000,000 the R. F. C.'s lending authority. Before passage by the Senate the bill was amended to stipulate that nothing in it "shall be construed to authorize the Corporation to take any action, directly or indirectly, with respect to any project, authority for which (by treaty or otherwise) or expenditures for which, have heretofore been considered and rejected by the Congress since January 1, 1926." Under that limitation, it was pointed out in the debate, the R. F. C. could not undertake work on such projects as the St. Lawrence Seaway, the Florida Ship Canal, or the Tennessee-Tombigbee Waterway. Also, under another provision, the R. F. C.'s authority to make loans would expire July 1, 1943.

With respect to railroad facilities to handle the ex-lake iron ore, Senator Brown had more to say about the matter in elaborating on his aforementioned statement about the possibility of an air attack on the Soo locks. He said:

"Already,—and I am not revealing any secrets—there has been in contemplation the construction of a railroad which would to a very great extent relieve such a situation if it should arise . . . there is a railroad from Duluth to the northwest corner of Lake Michigan, but it is a single-track railroad, in a bad state of repair. A double-track line could be constructed there, and the ore carried from the Mesabi Range . . . to the ports of Escanaba and Manistique, and possibly Green Bay on Lake Michigan.

"The railroads have advised that there are not sufficient ore-carrying cars in existence to do anything more than take care of the necessities of hauling ore from the mines to the water at Duluth, on Lake Superior, and to the Lake Michigan ports. If they had to haul the ore from Duluth and Superior all the way through the Chicago gateway, down to the Cleveland-Pittsburgh area, it would be impossible to do the job with the present railroad equipment.

"Therefore, there is granted in the bill power to improve and construct railroads, because that short haul would still enable the use of the ore carriers on the Great Lakes; and it may be surprising to members of the Senate to learn that the equivalent of from 200 to 250 cars of ore is carried in one 600-ft. ore carrier on the Great Lakes, a quantity which is equal to three or four or five full trainloads. We must have this combination of rail-and-water haul. Therefore, we provide through this government agency a means of meeting that situation."

Justifying the authority for the R. F. C. with respect to rolling stock, Senator Brown went on to refer to increased rail traffic expected to result from the proposed transfer of intercoastal ships to other routes in connection with the aid-to-Britain policy. Mr. Brown suggested that no one would think that "a private corporation, such as a railroad, would willingly enter into the purchase of a tremendous amount of additional equipment if it were known that immediately upon the cessation of the war all these ships would be brought back and put in the coastwise trade." Therefore, "it was felt that there ought to be a government agency somewhere which could speedily, without delay, acquire that equipment."

### Phillips to Retire as Head of O. R. C.

J. A. Phillips, who has been president of the Order of Railway Conductors since 1934, announced, at the forty-second Grand Division convention of the order at Chicago on May 15, that he would retire.

### P. & S. Division Secretary Now Located in Washington

The office of Secretary W. J. Farrell of the Purchases and Stores Division, Association of American Railroads, has been moved from New York to Washington, D. C.

### Vacations With Pay

Nothing to report except that "they are still grinding away from day to day" was the answer at offices of the National Mediation Board to this week's inquiries regarding the status of mediation proceedings in connection with the demand of 14 non-operating unions for vacations with pay.

# I.C.C. Limits Its Labor Authority

## Says the law saves it from mixing into a controversy between two unions

Reporting on reconsideration of the case involving the status of persons employed by the Hudson & Manhattan as elevator operators, elevator starters and information clerks in the Hudson Terminal buildings, 30 and 50 Church street, New York, the Interstate Commerce Commission has spread itself to dispose of general questions of its jurisdiction under Section 1(5) of the Railway Labor Act. The majority report assigns the commission a relatively restricted role; and it finds that the work of the elevator men is not that of employees or subordinate officials of a carrier, thereby reversing the prior report wherein Division 3 had held that the employees involved should not be excluded from Railway Labor Act coverage.

Commissioner Patterson dissented, claiming that the majority's action in assuming only restricted jurisdiction came after the commission had held "consistently" for 13 years that it had broader authority. Mr. Patterson would have brought the elevator men under the Labor Act. Commissioners Mahaffie and Rogers joined in his expression, while Commissioner Porter, concurring, agreed with what Mr. Patterson had to say about the majority's action limiting the commission's jurisdiction. However, Mr. Porter who was joined by Commissioners Aitchison and Miller did agree with the majority finding that the work performed by the elevator men was not that of employees or subordinate officials of a carrier. Commissioner Splawn did not participate in the disposition of the proceeding.

The majority findings are summarized in the report's headnotes as follows:

1. The Commission has jurisdiction under section 1(5) of the Railway Labor Act only to amend or interpret its orders defining work as that of employees or subordinate officials.
2. The orders "now in effect" which the commission is given authority to amend and interpret in section 1(5) of the Railway Labor Act are those prescribed under section 300(5) of the Transportation Act, 1920.
3. The commission has no jurisdiction to determine whether particular persons are employees or subordinate officials of a carrier within the meaning of the term "employee" as used in the Railway Labor Act.
4. The commission has not issued any orders which are now in effect within the meaning of section 1(5) of the Railway Labor Act, defining the work performed by elevator operators, elevator starters, or information clerks, employed in the Hudson Terminal buildings, New York, as that of employees or subordinate officials.
5. The work performed by those employees found not to be that of employees or subordinate officials of a carrier.
6. Findings in prior report, 241 I. C. C. 617, reversed.

Leading up to those conclusions the majority report examines section 1(5) of the Labor Act and finds that it sets forth "three coordinate factors which must exist at one and the same time before a person is an employee or subordinate official of a carrier within the meaning thereof." In other words the employee must be in the service of a carrier; the carrier must have continuing authority to supervise the service of the employee; and the work performed must be defined by the commission as that

of an employee or subordinate official of a carrier. The majority report holds that the commission is not given any jurisdiction "to determine either of the first two factors . . . it is only in connection with the third factor that we are given any authority, and there our authority is specifically limited to amending and interpreting 'existing orders,'" i. e., orders existing when section 1(5) was enacted. The only order which the commission now qualifies for amendment and interpretation is its order of February 5, 1924, which determined classes of employees who were to be recognized as subordinate officials under section 300(5) of the Transportation Act of 1920.

The disclaimer of jurisdiction to determine whether particular persons are covered by the Labor Act leaves that question without any interested agency having specific authority to settle it, according to Dissenter Patterson. He pointed out that there has been no specific grant of authority in that connection to the National Mediation Board or the National Railroad Adjustment Board. On the other hand Mr. Patterson found "numerous proceedings" wherein the I. C. C. found "in substance" that individuals were in the service of a carrier and subject to carrier supervision in order to support a finding that "the work performed was that of an employee or subordinate official." He could not understand the disclaimer of jurisdiction "at this late date" in view of the fact that the interested parties raised no question of jurisdiction.

Commenting on evidence to the effect that the H. & M. had given the elevator men free transportation and included them in reports to the Railroad Retirement Board, the majority calls such acts "voluntary" on the part of the railroad. It had previously noted that such evidence did not show that any governmental agency charged with administering the Railroad Retirement Act, Carriers Taxing Act, and Railroad Unemployment Insurance Act had determined that those acts apply to the building employees.

The proceeding arose out of a dispute between the Building Service Employees International Union, Local 32-B, and the Brotherhood of Railway Clerks as to which union had the right to represent the elevator men. As noted in the *Railway Age* of April 26, page 733, the reopening which brought the case before the entire commission came after petitions in that connection had been filed by the H. & M. and the Building Employees Union. While it took the position that it was prohibited by law from interfering between its employees and their representatives, the H. & M., at the request of the examiner, did file a brief, contending that "the employees whose status is here in question are employees of the Corporation, but not of the railroad operated by that Corporation."

## N. J. Roads Must Pay Up

Nine New Jersey Railroads which have withheld 40 per cent of their state taxes for 1937 and 1938, pending appeal on the basis of assessment, must pay up the more than $26,000,000 withheld, according to a ruling by the State Board of Tax Appeals on May 14. The Board stated that state and federal court decisions upholding levies from 1933 to 1936, inclusive should govern also tax levies for 1937 and 1938. The board held that the issues raised with respect to 1937 and 1938 taxes are identical with those argued in litigation already decided against the railroad companies in the courts. Taxes for all railroads in the state in 1937 totaled $19,361,832 for 1937 and $20,364,920 for 1938.

## Short Line Meeting September 29-30 at Chicago

The 1941 annual meeting of the membership of the American Short Line Railroad Association will be held September 29 and 30 at the Hotel Morrison, Chicago.

## Pension Act Amendment

Senator La Follette, Progressive of Wisconsin, has introduced S. 1538 to amend the Railroad Retirement Act to make eligible for annuities individuals who on March 1, 1937, were 70 years of age and were excluded because of not being employed on that date.

## U. P. Shops Damaged by Fire

Damage, estimated at $1,000,000, was caused by a fire in the Cheyenne, Wyo., shops of the Union Pacific on May 19. The fire was thought to have started in the wheel shop, from which it spread to other buildings covering a block and a half. The roundhouse, locomotive shop and office building were not damaged.

## Passes Bill to Permit Canadian Ships to Carry Lake Ore

The House on May 15 passed H. R. 4632 to permit vessels of Canadian registry to transport iron ore between United States ports on the Great Lakes during 1941. The legislation, urged by the Transportation Division, Office for Emergency Management, is proposed so that the Canadian vessels may help out on this season's ore movement.

## Ore Loadings Heavy

The Office for Emergency Management stated this week that reports received by its Transportation Division from "the four principal originating railroads" show that for the 1941 season of navigation through May 10, a total of 10,393,000 long tons of ore had been loaded into boats at upper lake ports. The comparable 1940 figure was 2,514,000 tons.

## Short-Notice Permission for New Mid-Continent Oil Rates

The Interstate Commerce Commission in a May 10 order by Commissioner Splawn granted railroad defendants in the No. 28106 proceeding authority to publish rates there prescribed on 10 days' notice. The new rates are to become effective June 11.

This is the proceeding wherein the commission ordered the carriers to make substantial reductions in carload rates and advised them to consider publishing trainload rates for a restricted or slow service on gasoline and other refined petroleum products from mid-continent origins to destinations in the Middle West. The commission's decision was reviewed in the *Railway Age* of March 29, page 576.

## Credit Rules for Water Carriers

Rules and regulations to govern the extension of credit by water carriers will be determined by the Interstate Commerce Commission in a proceeding which has been docketed as Ex Parte No. 143. The recently-issued order instituting the proceeding was accompanied by draft of proposed regulations; and respondents are required to show cause by June 5 why such proposed rules—"substantially similar" to those governing extension of credit by railroads—should not be made effective.

## Railway Men With O. P. M.

C. E. Smith, vice-president of the New York, New Haven & Hartford, has become associated with the Industrial and Strategic Materials Branch of the Office of Production Management's Division of Purchases as adviser on oil and gas. Summer Hays, recently on the Association of American Railroads staff, has also become an O. P. M. adviser; he will assist the Purchasing Division's Equipment and Supplies Branch on matters relating to lumber.

## Status of Wharfingers

The Interstate Commerce Commission will hear oral argument at Washington, D. C., on July 9 on the question of the extent of its jurisdiction under Part III of the Interstate Commerce Act over persons engaged in the operation of wharves and other terminal facilities used in connection with the transportation by water of passengers and property in interstate and foreign commerce. Briefs may be filed by any interested party on or before July 1. The proceeding is docketed as Ex Parte No. 144.

## City Re-Opens Part of Defunct Westchester Line

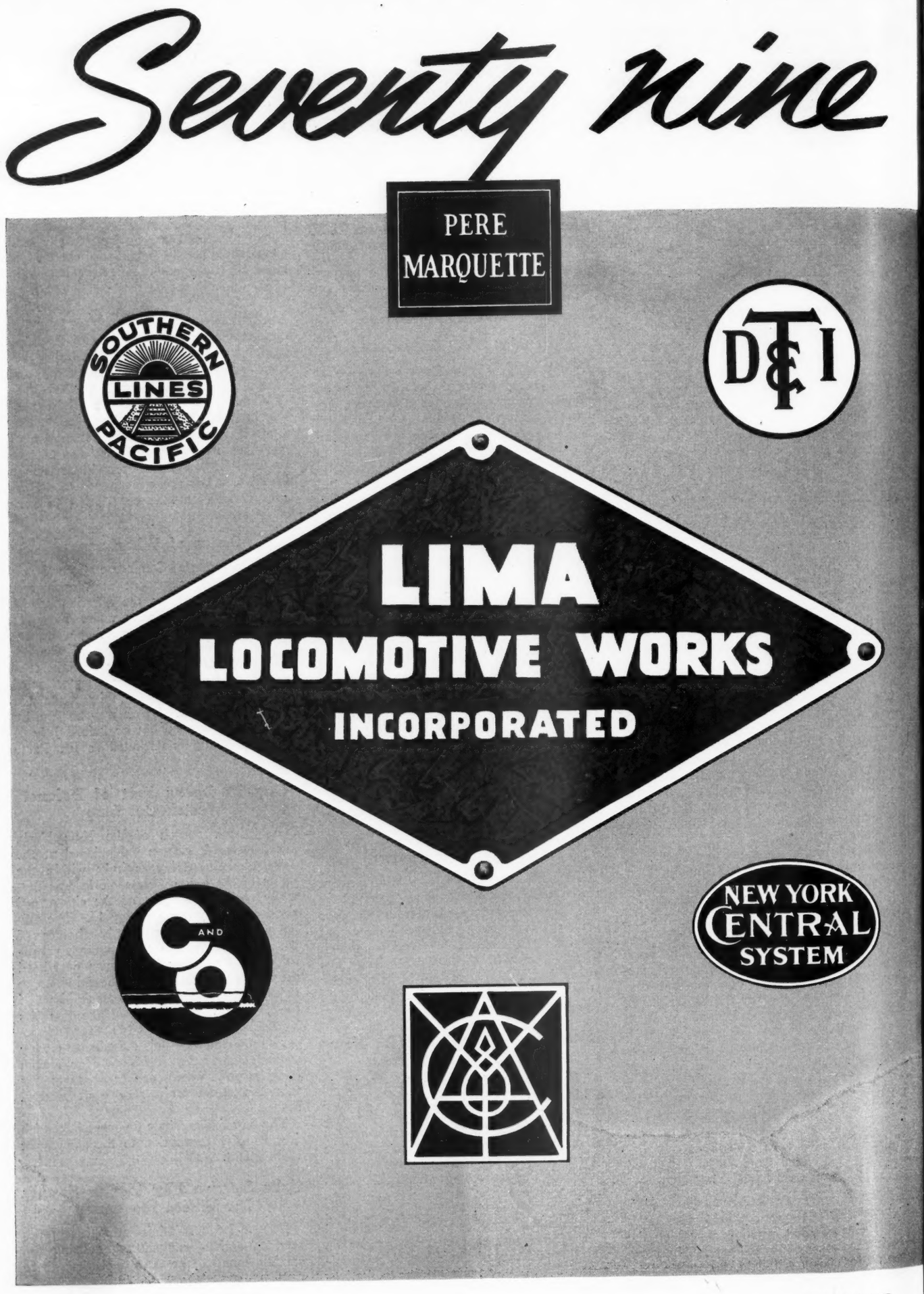
A 4½-mi. stretch of the New York, Westchester & Boston (abandoned at the close of 1938) lying entirely within the limits of the city of New York, was formally reopened as part of the city-owned rapid transit system on May 15. The city has purchased the line from bondholders of the defunct electric suburban road, substituted third rail for the former over-head catenary construction and placed in service redesigned elevated railroad cars. None of the former rolling stock of the line has been taken over by the city; a large number of the multiple-unit electric cars were re-possessed by the New York, New Haven & Hartford, which converted them for suburban steam train service at Boston, Mass.

The new line carries a five-cent fare, with free transfer connection to the subway at 180th street.

## Calls Storage Key to Car Supply For Wheat Movement

Federal Loan Administrator Jesse Jones sees no serious car shortage during the coming months but does feel that there may be some tightness during the harvest season due to the fact that there

*Continued on third left-hand page*


Seventy nine
PERE MARQUETTE
SOUTHERN PACIFIC LINES
D&T I
LIMA
LOCOMOTIVE WORKS
INCORPORATED
C AND O
NEW YORK CENTRAL SYSTEM

# decisive steps

## . . . in keeping pace with freight progress

**During the last year the railroads represented on the opposite page have received, or placed orders for, 79 locomotives. Some of these locomotives, such as the "Daylights" for the Southern Pacific, will be used on daylight passenger service and overnight "Hotshot" service. Others such as the 2-6-6-6 type articulated mallets ordered by the Chesapeake and Ohio will be used for high-speed, heavy-duty freight service only. No matter what the service, these railroads are doing their part to speed up the defense program by ordering —NEW LIMA POWER!**

**LIMA LOCOMOTIVE WORKS**
INCORPORATED
**LIMA, OHIO**

# 33 1/3% increase in

(WITHOUT INCREASING THE SIZE OF THE LOCOMOTIVE)

# by application of...

The steam locomotive is possessed of latent power which now can be released by The Franklin System of Steam Distribution. This system, which is applicable to existing as well as new steam locomotives, is the result of years of experimentation, research and road tests and is offered to the railroads as a means of increasing train speed and load capacity without increasing the size of the locomotive.

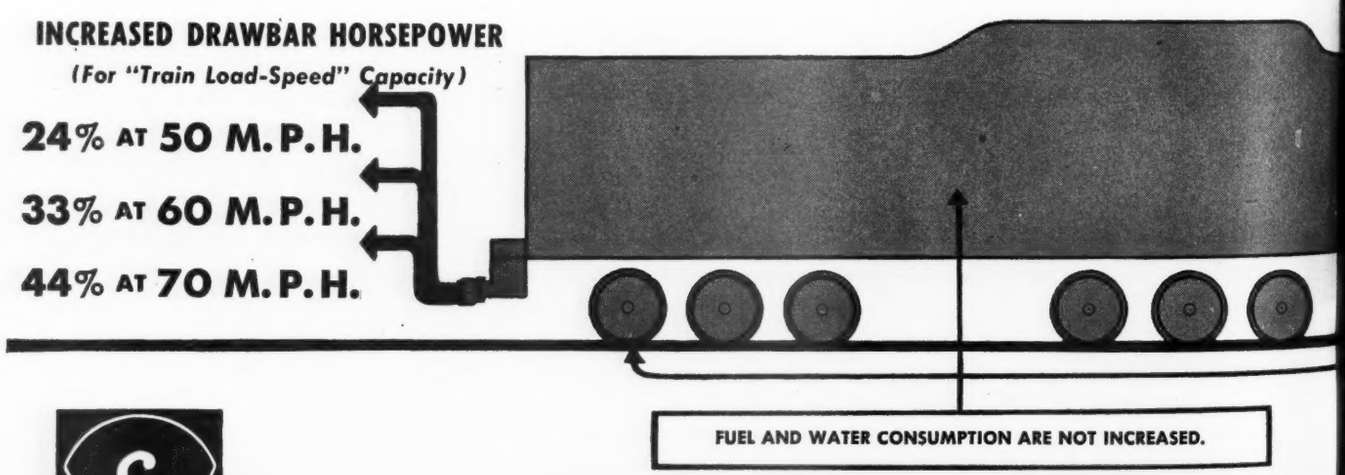
**INCREASED DRAWBAR HORSEPOWER**

*(For "Train Load-Speed" Capacity)*

**24% AT 50 M.P.H.**

**33% AT 60 M.P.H.**

**44% AT 70 M.P.H.**



**FUEL AND WATER CONSUMPTION ARE NOT INCREASED.**

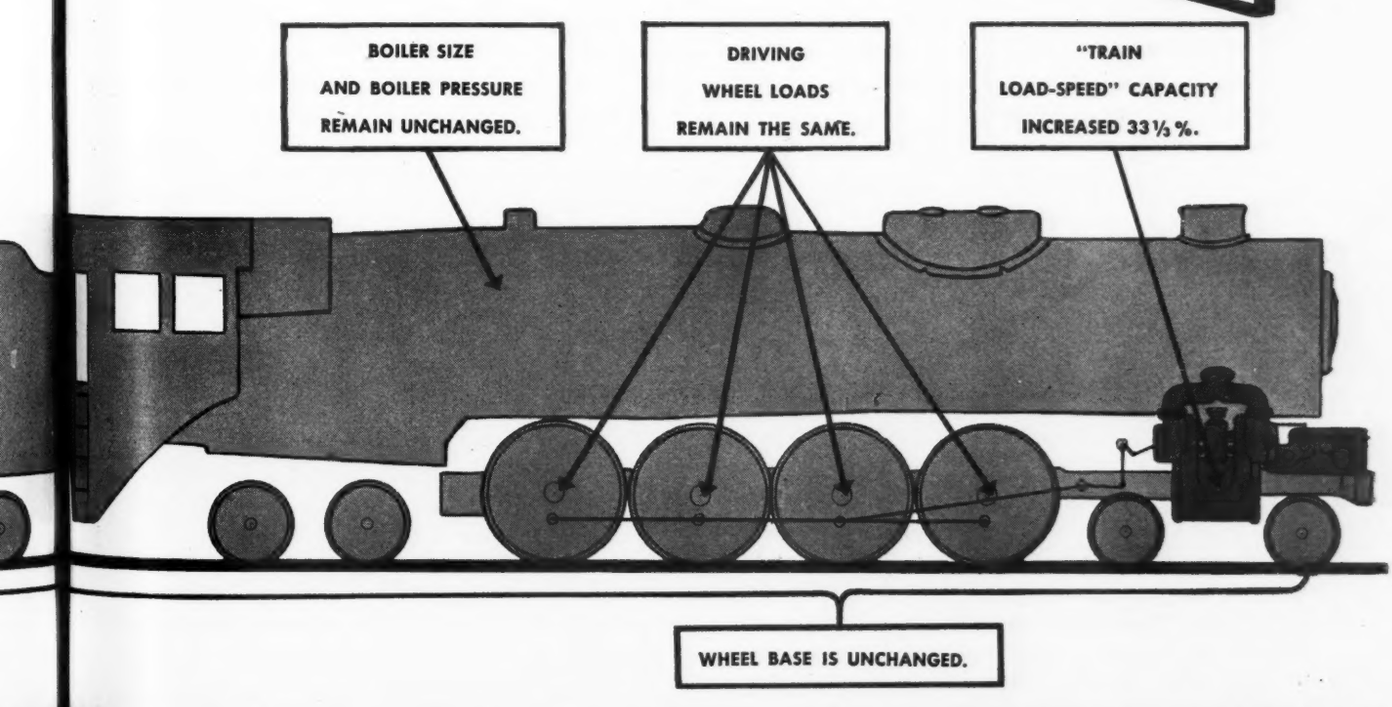
REG. U.S. PAT. OFF.

## FRANKLIN RAILWAY

NEW YORK

# "train load-speed" capacity

# THE FRANKLIN SYSTEM of Steam Distribution


BOILER SIZE AND BOILER PRESSURE REMAIN UNCHANGED.
DRIVING WHEEL LOADS REMAIN THE SAME.
"TRAIN LOAD-SPEED" CAPACITY INCREASED 33⅓%.
WHEEL BASE IS UNCHANGED.

## SUPPLY COMPANY, INC.

CHICAGO MONTREAL

may be a lack of wheat storage facilities. The shortage, if any, said Mr. Jones, will not be serious, and he added that the railroads are anticipating the situation. "They can handle the wheat," he concluded, "if the box cars do not have to be used for storage."

## Trans-Missouri-Kansas Board to Meet June 4

The movement of this year's winter wheat crop will be the principal topic for consideration at the sixtieth regular meeting of the Trans-Missouri-Kansas Shippers Board at Wichita, Kan., on June 4. C. E. Johnston, chairman of the Western Association of Railway Executives, will speak on Transportation under the American System at a joint luncheon of the board, the Wichita Board of Trade, the Wichita Chamber of Commerce and the Wichita Traffic Club.

## Celler Reoffers Walter-Logan Bill to House

Representative Celler, Democrat of New York, has introduced in the House H. R. 4782, a bill which embodies the principal features of the Walter-Logan bill of last session which was vetoed by the President. Included in the measure are provisions for an Office of Federal Administrative Procedure, hearing commissioners, and declaratory rulings by administrative agencies. As written, the measure makes no exemption of the Interstate Commerce Commission or any other federal administrative agency, but the agencies to come within the scope of the bill would be designated from time to time by the director of the Office of Federal Administrative Procedure.

## Representation of Employees

Results of recent elections in representation-of-employees cases have been announced by the National Mediation Board. On the Norfolk Southern the Brotherhood of Railway Clerks won the right to represent clerical, office, station and storehouse employees; on the Atlanta, Birmingham & Coast the International Brotherhood of Blacksmiths, Drop Forgers & Helpers and the Brotherhood of Railway Carmen, operating through the Railway Employees Department, American Federation of Labor, won the right to represent respectively the blacksmiths and carmen (including coach cleaners), their helpers and apprentices; and on the Charleston & Western Carolina the Brotherhood of Locomotive Firemen & Enginemen won the right to represent locomotive firemen, hostlers and hostler helpers.

## Reduced Rates on Autos to the South

The Interstate Commerce Commission, Division 3, has recently issued two decisions authorizing railroads to reduce rates on automobiles from Evansville, Ind., to destinations in Mississippi, Alabama, Georgia and Louisiana east of the Mississippi river, and from Memphis, Tenn., to destinations in Arkansas and Louisiana west of the Mississippi. The decisions are in I. & S. Docket No. 4835 and I. & S. Docket No. 4848.

Generally the commission upheld the contention of the railroads that it was necessary for them to maintain rates sufficiently lower than the motor carrier rates to offset, at least in part, the expense to shippers of loading and unloading rail shipments. Protesting motor carriers had sought to have the commission recognize the door-to-door feature of their operations as an "inherent advantage" of motor transportation. Both decisions are without prejudice to conclusions which the commission may reach in its pending general investigation in Docket No. 28190, New Automobiles in Interstate Commerce.

## Okla. "Make-Work" Law to Cost K. C. S. $70,000

An Oklamoha state law limiting the length of trains operating in the state to 70 cars will cost the Kansas City Southern additional operating expenses of from $60,000 to $70,000 annually, according to the complete report of Chairman Harvey Couch to stockholders for 1940. Railroads in the state had obtained a temporary injunction restraining enforcement of the law, but this has been dissolved by a recent decision of a three-judge federal court holding that the "make-work" law is not unconstitutional. Compliance with the law was effective January 29, 1941. The report adds: "The officers of your company are giving consideration to such further action as may be practicable with respect to this law."

## Senate Orders Probe of Wage Plans for Red Caps

The Senate on May 15 adopted Senate Resolution 105 which calls for an investigation by the Wage and Hour Division, Department of Labor, of practices adopted by railroads and terminal companies as a result of the application of the minimum-wage provisions of the Fair Labor Standards Act to red caps. The resolution, which has been sponsored by Senator Thomas, Democrat of Utah, went through after Senator Taft, Republican of Ohio, had secured adoption of an amendment stipulating that the Administrator of the Wage and Hour Division "shall give a full opportunity to both the employees and the employers to present publicly any evidence, information, data, or argument they may care to present, and shall report such evidence and other data to the Senate with his findings and conclusions."

## N. Y. Central Invites School Students to Name Empire State Cars

The names of 26 former governors of New York will be chosen by students in high and junior high schools throughout the state as titles for an equal number of cars in two new sets of equipment for the "Empire State Express," now being constructed by the Edward G. Budd Manufacturing Company. The New York Central has planned a state-wide contest in which 100 prizes are offered, each to be a three-day trip to Greenfield Village near Detroit, Mich., where early modes of American life have been re-created.

Open to all students in seventh to twelfth grades in public and private schools in the state, the contest opened May 20 and will close midnight July 31. Entrants in the contest are asked to suggest the names of ten governors of New York state elected to office since the Revolutionary War and write an essay of not more than 500 words on reasons for their choice. To personalize the contest, the road is asking that entries be mailed to "Mr. F. E. Williamson, president of the New York Central System, Room 1256, 466 Lexington Avenue, New York."

## L. N. E. R. Mechanical Chief Dies at 64

Sir Nigel Gresley, chief mechanical engineer of the British London & North Eastern since 1923 and locomotive engineer of its predecessor, the Great Northern, from 1911 to 1922, died at Hertford, England, on April 5. His career, according to the Railway Gazette, "has no parallel" in the locomotive history of Great Britain. For 30 years he held the chief executive post in the mechanical engineering branch of an important railroad. He was unique in having authorty covering the entire railroad system, and was the only technical officer on the L. N. E. R. whose jurisdiction extended beyond divisional limits.

Among Sir Nigel's chief contributions to railroading were his championing of three-cylinder single-expansion locomotives; advocacy of entirely new valve motion to replace individual motion attached to each cylinder; belief in the use of large boilers, wide fireboxes and large grate area; and extensive experimentation with high pressure and water tube boilers. In the car field he is noted for his design and standardization of the double-bolster truck for passenger coaches and the use of articulated cars for suburban service.

## Pullman Analyzes Operations for Employees

The three units of Pullman, Inc., have issued an annual statement to employees which, by means of graphs, pictures and other illustrations, gives an easily understood picture of 1940 operations. An illustration of the "Pullman dollar" shows that 51 per cent of it came from car manufacturing, 48 per cent from Pullman passengers, and one per cent from investments and that 33 per cent went for wages, 3 per cent for employee benefits, 1 per cent for officers salaries, 43 per cent for materials, 10 per cent for depreciation, 4 per cent for taxes, 5 per cent for dividends and 1 per cent for surplus. The relation between payroll and profits is further illustrated by a columnar chart. Safety, dependability, low cost, sleep, "home-like" comfort, service, and roominess are listed as the "seven great advantages of Pullman travel." The report also emphasizes the fact that 1940 taxes were equal to $5 per employee per week and illustrates the defense work being done by the three units.

## Club Meetings

The Traffic Club of Wilmington, Del., will hold a graduation dinner for students in its traffic course at the Wilmington Y. M. C. A. on May 28. Guest speaker will be Joseph F. Eshelman, assistant general counsel, Pennsylvania, who will speak on "Aspects of Interstate Commerce Commission Procedure." Dr. G. Lloyd

*Continued on next left-hand page*

# 5 WAYS

## ...to get *maximum results* from your locomotives

**1** Reclamation of waste heat from the exhaust steam . . . by either the Elesco open or closed type of feedwater heater.

**2** Higher degrees of superheated steam with the Elesco Type E superheater . . . provides a substantial increase in evaporating and superheating surfaces over the Type A superheater.

**3** Maximum degrees of superheated steam by freeing the steam of moisture before it enters the dry pipe . . . with an Elesco tangential steam dryer.

**4** Maintain highest superheater performance . . . by registering temperatures of steam with an Elesco pyrometer.

**5** Better handling of the locomotive by means of American multiple-valve throttle . . . results in less damage to train equipment.

ELESCO

SUPERHEATERS • FEEDWATER HEATERS
AMERICAN THROTTLES • STEAM DRYERS
EXHAUST STEAM INJECTORS • PYROMETERS

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Representative of
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60 East 42nd Street, NEW YORK
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• • •
Montreal, Canada
THE SUPERHEATER COMPANY, LTD.

Wilson, professor of transportation, University of Pennsylvania, will present certificates to those who have completed the course.

The New York Railroad Club will hold its 18th annual outing at the Westchester Country Club, Rye, N. Y., on June 5. J. E. Davenport, vice-president of engineering, development and research of the American Locomotive Company, is general chairman of the affair, and D. W. Pye, president of Tuco Products, is chairman of the general committee. Reservations should be mailed to Mr. Pye at 30 Church St., New York.

## Fuel-Oil Tax Would Burden Santa Fe and Southern Pacific

Asserting that a tax on fuel oil would be unjust for the reason that it would place a burden on a few railroads, Judge R. V. Fletcher, vice-president and general counsel of the Association of American Railroads, opposed such a levy in a recent presentation before the House of Representatives committee on ways and means. At the same time Judge Fletcher referred to the Treasury Department's recommendation for a five per cent tax on passenger transportation, stating that if his assumption that this would apply to all forms of transportation were correct, he had nothing to say about it.

With respect to the fuel-oil matter, Judge Fletcher called attention to a number of pending bills proposing such a tax. So far as the railroads are concerned, he said, half of the tax would fall on two roads—the Southern Pacific and the Atchison, Topeka & Santa Fe.

## C. & N. W. Seeks to Abandon 102 Miles

Hearings on the application of the Chicago & North Western to abandon its 102-mile Hastings, Neb., to Linwood branch line were started at York, Neb., on May 20, before J. K. Lyle, examiner of the Interstate Commerce Commission. Testimony of the railroad showed that operating losses after taxes ranged from $13,342 in 1935 to $50,065 in 1940, and that the loss in the first three months of 1941 was $12,391. The line was built in 1887 by the Fremont, Elkhorn & Missouri Valley and was purchased by the North Western in 1903. The territory is also served by the Chicago, Burlington & Quincy and 101 truck operators. The decline in traffic during the last five years is attributed to diversion to trucks, lower grain yields and reduced livestock feeding. Gross freight revenue amounted to $650,000 and passenger revenue to $7,266 in 1930, compared with $168,182 and $119, respectively, in 1939.

## Eastern Presidents Name Groups to Police Defense Traffic

The Eastern Railroad Presidents Conference, at a meeting on May 15, authorized appointment of two special committees of railroad officers which will act to meet problems of transportation in connection with the national defense movement, when and as they arise. F. E. Williamson, president, New York Central, and chairman of the Conference, appointed a five-man Operating committee and a five-man Transportation committee to do the job.

Members of the Operating committee are: J. F. Deasy, vice-president (operations), Pennsylvania; C. W. Van Horn, vice-president (operation and maintenance), Baltimore & Ohio; H. D. Barber, vice-president, Erie; George Voilkner, assistant general manager, Lehigh Valley; and R. D. Starbuck, executive vice-president, New York Central. Members of the Transportation committee are: J. C. Rill, chief of freight transportation, Pennsylvania; D. F. Stevens, general superintendent transportation, Baltimore & Ohio; E. J. Stubbs, superintendent of transportation, Erie; L. A. Jenkins, superintendent car service, Delaware, Lackawanna & Western; and C. L. Jellinghaus, manager freight transportation, New York Central.

## Marine Boilers Pose Clearance Problems

A bridge had to be gauntleted; another raised and cuts widened to permit the movement of three large marine boilers by six railroads between Schenectady, N. Y., and South Portland, Me., completed on May 17. The boilers—17 ft. 7 in. high, 12 ft. 6 in. wide and weighing 102,000 lb. apiece—were built by the American Locomotive Company and consigned to the Todd-Bath Iron Shipbuilding Company. The shipment was the first of 30 similar movements involving a total of 90 boilers.

Constituting the largest-dimensioned shipment ever made through New England, the boilers were too large to allow normal routing of 283 mi., but were moved 381 mi. on a circuitous route via Troy, N. Y., Rutland, Vt., Bellows Falls, Wells River and St. Johnsbury, over the New York Central, Delaware & Hudson, Boston & Maine (two separate stretches), Rutland, Canadian Pacific and Maine Central. The latter hauled it over the Crawford Notch route through the White mountains.

Even this routing required that the double track of one bridge in New York be gauntleted; that another bridge be raised; that a water column in Vermont be moved; that track on two bridges in Maine and Vermont be raised; that a track be shifted 8 ft. temporarily, and that certain cuts be widened. Each participating carrier issued special orders designating tracks and speeds to be used and instructed track men to move switch lamps to permit passage of the over-sized load.

## Would Give I. C. C. Authority Over Vehicle Sizes and Weights

Authority for the Interstate Commerce Commission to override state regulations governing sizes and weights of motor vehicles is proposed in H. R. 4785 which was introduced in the House on May 19 by Representative Magnuson, Democrat of Washington. The bill would amend the Motor Carrier Act by striking out present section 226 and substituting a new section 226.

The new section would authorize the filing of a petition to bring into issue any state regulation involving sizes and weights of motor vehicles. The I. C. C., after notice to the state involved, would be authorized to refer the matter to a joint board for hearing and recommendation. The remainder of the bill reads as follows:

"Whenever, on such complaint after full hearing, it may be found that any such law, regulation, or practice is unreasonable and arbitrary and results in burdening interstate commerce by diminishing the flow, increasing the cost, or otherwise creating trade barriers, the commission shall prescribe the maximum or minimum and maximum sizes and weights, including loads, thereafter to be observed, in such manner as in its judgment will remove such unreasonable burdens on interstate commerce, promote safety and conserve the highways, and the orders of the commission shall be observed while in effect by motor carriers subject to this part, the laws of any state,

Photo courtesy Maine Central

**The Maine Central Bridge Near Glen-Jackson Station, N. H., Made a "Tight Squeeze" for Three Large Marine Boilers En Route From Schenectady, N. Y., to South Portland, Me.**

*Continued on next left-hand page*

# SAVE WITH SLOTTED RUNNING BOARDS

Shown above on a modern Caboose is the newest application of "A.W." Rolled Steel Floor Plate—Slotted Type Super-Diamond Running Boards . . . Rapid draining. Removes the hazard of rain and snow. The arrangement of slots and their hand-hold size give extra protection to working personnel. View of Steps and Platform at lower left shows another application of "A.W." Rolled Steel Floor Plate. Made from solid steel, "A.W." Floor Plate resists corrosion and gives maximum service during life of car. Used on all types of freight-rolling stock . . . Write us for further facts.

## "A.W." *Rolled Steel* FLOOR PLATE

ALAN WOOD STEEL CO., CONSHOHOCKEN, PA.
District Offices and Representatives—Philadelphia, New York, Boston, Atlanta, Buffalo, Chicago, Cincinnati, Cleveland, Denver, Detroit, Houston, New Orleans, Pittsburgh, Roanoke, Sanford, N.C., St. Paul, St. Louis, Los Angeles, San Francisco, Seattle, Montreal.

or the decision or order of any state authority to the contrary notwithstanding."

## Freight Car Loading

Carloadings totals for the week ended May 17 are not given in this issue—the figure not having been made public at the time this issue went to press.

As reported in last week's issue, the loadings for the previous week ended May 10, totaled 837,149 cars, and the summary for that week, as compiled by the Car Service Division, A. A. R., follows:

**Revenue Freight Car Loading**

For Week Ended Saturday, May 10

| Districts | 1941 | 1940 | 1939 |
|---|---|---|---|
| Eastern | 178,697 | 144,273 | 130,545 |
| Allegheny | 187,874 | 142,182 | 100,283 |
| Pocahontas | 57,006 | 48,882 | 12,608 |
| Southern | 114,901 | 100,127 | 84,745 |
| Northwestern | 136,311 | 103,673 | 86,218 |
| Central Western | 113,751 | 96,482 | 96,882 |
| Southwestern | 48,609 | 45,009 | 43,363 |
| Total Western Districts | 298,671 | 245,164 | 226,463 |
| Total All Roads | 837,149 | 680,628 | 554,644 |
| Commodities | | | |
| Grain and grain products | 35,118 | 32,224 | 34,367 |
| Live stock | 12,193 | 11,493 | 12,783 |
| Coal | 139,058 | 118,837 | 42,499 |
| Coke | 12,853 | 8,008 | 4,455 |
| Forest products | 40,567 | 33,351 | 30,589 |
| Ore | 78,400 | 51,651 | 24,928 |
| Merchandise l.c.l. | 162,887 | 149,047 | 152,168 |
| Miscellaneous | 356,073 | 276,017 | 252,855 |
| May 10 | 837,149 | 680,628 | 554,644 |
| May 3 | 794,301 | 665,547 | 572,025 |
| April 26 | 721,702 | 644,804 | 585,190 |
| April 19 | 708,651 | 628,468 | 557,867 |
| April 12 | 679,808 | 619,105 | 547,179 |
| Cumulative Total, 19 Weeks | 13,807,214 | 12,011,917 | 10,900,108 |

*In Canada.*—Carloadings for the week ended May 10 were 61,566, as compared with 61,263 in the previous week and 52,766 last year, according to the summary of the Dominion Bureau of Statistics.

| | Total Cars Loaded | Total Cars Rec'd from Connections |
|---|---|---|
| Total for Canada: | | |
| May 10, 1941 | 61,566 | 29,966 |
| May 3, 1941 | 61,263 | 29,734 |
| April 26, 1941 | 60,593 | 27,782 |
| May 11, 1940 | 52,766 | 25,442 |
| Cumulative Totals for Canada: | | |
| May 10, 1941 | 1,053,896 | 548,418 |
| May 11, 1940 | 910,320 | 465,346 |
| May 13, 1939 | 805,830 | 404,105 |

## Mansfield Will Offer St. Lawrence Legislation

Representative Mansfield, Democrat of Texas, chairman of the House committee on rivers and harbors, said on May 19 that he would introduce "possibly within a week" legislation to make effective the United States-Canadian agreement on the proposed St. Lawrence power and seaway development. Prior to Mr. Mansfield's statement there had been reports in Washington to the effect that opposition in Congress might prompt President Roosevelt to refrain from pressing for the approving legislation at this session.

The President transmitted the agreement to Congress two months ago, on March 21, with a brief message stating that he expected "to request introduction, in due course, of legislation designed to make this agreement effective."

Speaking in the House on May 20, Representative Rich, Republican of Pennsylvania, addressed himself to reports of Administration plans for prompt development of the St. Lawrence. The Pennsylvanian looked upon the project as one which would benefit Canada but "injure the people of the United States." In the latter connection he mentioned "about 400,000 miners who are going to be put out of work soon if this Administration keeps on and on and on as it is." Also, he asked where the money was coming from, predicting that if experience with past estimates is any guide the cost of the present proposal will be $600,000,000 instead of the estimated $275,000,000.

Representative Pittenger, Republican of Minnesota, replied, saying that a look at the map would show that "it is fallacious to argue that the Great Lakes-St. Lawrence seaway project is a Canadian proposition." Also, he has heard of figures "which will show that the St. Lawrence seaway will increase coal consumption and actually be for the benefit of the coal miners." Persons "interested in facts" were referred by Mr. Pittenger to the reports being issued by the St. Lawrence Survey functioning in the Department of Commerce under the direction of N. R. Danielian.

## Express Agency Gets Temporary Rights on 18 Routes

The Interstate Commerce Commission has granted the Railway Express Agency temporary authority to operate trucking services over 18 routes in 12 states. The operations are authorized for 180 days pending consideration of applications for permanent certificates covering the routes. Meanwhile the commission has denied similar R. E. A. applications for temporary authority covering 28 other routes.

These and other pending R. E. A. applications, which were opposed by American Trucking Associations, were filed as a result of an understanding whereby the commission discontinued proceedings in Ohio, Indiana and California to enjoin certain R. E. A. operations pending the filing of applications for certificates therefor. All of the 18 orders granting the temporary authority restrict R. E. A. services to shipments having an immediate prior or subsequent haul by rail.

## D. & R. G. W. to Inaugurate Two Streamlined Trains in August

Two stainless steel Diesel-electric passenger trains, to be known as the Prospector, will be placed in overnight operation by the Denver & Rio Grande Western between Denver, Colo., and Salt Lake City, Utah, about the first of August. The trains, which are being built by the Edward G. Budd Manufacturing Company, will each consist of two cars. Named the Prospector because of the rich mining lore of the territory, the trains will operate on a fast schedule, with stops at Glenwood Springs, Colo., Grand Junction and Provo, Utah.

Several new features will be incorporated in the trains. These include electrically-operated disc brakes equipped with an electric device to prevent the sliding of wheels, a hot water heating plant, which secures its heat from the water in the jackets of the Diesel engines and horizontal-type Diesel-electric power plants. Each car will be a self-contained unit and each will be driven by two Hercules Diesel engines, synchronized so that they will operate in unison by a single control lever in the cab. Each axle will have an individual power drive to provide uniformity of traction.

Each train will contain reclining coach seats, sleeping sections, cabinettes (private rooms), and diner-lounge space. The trains will be air-conditioned throughout by electric-mechanical refrigeration. The cars of one train will bear the names of John Evans and David Moffat, pioneer Colorado railroad builders, and those of the second train, Brigham Young and Heber C. Kimball, pioneers in the building of Utah and the Mormon culture.

## Freight Claim Division to Meet at Denver

The Freight Claim Division of the Association of American Railroads will hold its annual session at the Cosmopolitan Hotel, Denver, Colo., on June 10-12. The program for the meeting is as follows:

JUNE 10—MORNING

Welcome—Hon. Ralph L. Carr, governor of Colorado (tentative)
Address—Judge Wilson McCarthy, trustee of the Denver & Rio Grande Western
Address—Parks C. Archer, chairman of the Freight Claim Division
Memorial Service
Report of Committee on Prevention of Loss and Damage
Address—C. H. Buford, vice-president, operations and maintenance department of the Association of American Railroads

AFTERNOON

Prevention discussion (continued)
Action on the report of the Committee on the Prevention and Loss and Damage

JUNE 11—MORNING

Announcements
Report of Committee on Freight Claim Rules
Election of officers and General Committee members.
Balloting for Appeal Committee
Luncheon address—C. E. Johnston, chairman of the Western Association of Railway Executives

AFTERNOON

Report of Committee on Freight Claim Rules (continued)
Report of Tellers on Appeal Committee election
Balloting for Arbitration Committee

JUNE 12—MORNING

Report of Committee on Rules of Order
Report of General Committee regarding principles and practices
Report of Tellers on Arbitration Committee election
Report of secretary
Report of General Committee
Selection of dates and place for 1942 annual session
Closing business

## Would Move Bureaus to Chicago

Following many suggestions recently made to the effect that some government agencies including the Interstate Commerce Commission might well be moved to other parts of the country to alleviate the crowded conditions and lack of space in Washington, D. C., Representative Sabath, Democrat of Illinois, has introduced a resolution empowering the President to take appropriate steps to move certain bureaus to other cities. The resolution specifically requests and authorizes the President to direct the transfer from the District of Columbia to Chicago or elsewhere such departments, or bureaus thereof, and such independent agencies "whose activities can be conducted at least as efficiently and eco-

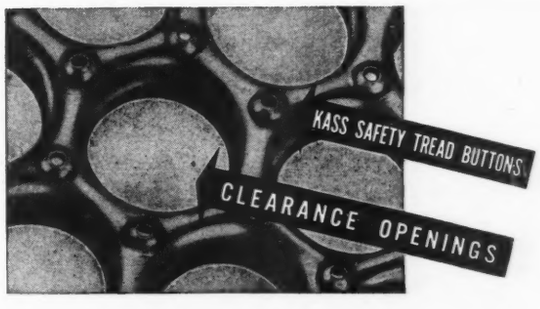
*Continued on next left-hand page*

## THE SAFE, ALL PURPOSE TREAD
## *THAT GRIPS MEN'S SOLES!*

**DESIGNED FOR THE PURPOSE** of making car running boards safe in all kinds of weather, MORTON OPEN-GRIP SAFETY TREADS are now available in sizes suitable for every hazardous walkway on freight cars and locomotives.

Snow, ice and sleet fall through the large clearance holes, (1½" in diameter). The small holes in the die-formed KASS Buttons *grip men's soles* securely.

***One-piece construction—nothing to buckle or pull apart—treads easier to install—permanently secure and safe.***




# MORTON
## OPEN-GRIP (STEEL) *Safety Tread*

**MORTON MANUFACTURING CO., 5105-5143 W. LAKE ST., CHICAGO, ILLINOIS**
**EASTERN OFFICE: 50 CHURCH ST. NEW YORK CITY**

nomically in such locality designated by him."

"This," explained Representative Sabath in commenting on the virtues of his resolution, "will bring about greater economy and greater efficiency, and I would like especially to point out the fact that Chicago is the focal point at the very center of our country and most favorably located to agriculture and industry. It must also be recognized that it is the railroad center of America, and in that connection I feel that the Interstate Commerce Commission would find that it would function most efficiently from Chicago; also, there is no reason why the Social Security Board and most of the bureaus of the Departments of Agriculture and Interior cannot be transferred to advantage. The transfer of these agencies alone would relieve to a great extent the overcrowded conditions in Washington and, I repeat, would result in greater efficiency and economy."

## April Operating Revenues 14.9 Per Cent Above 1940

Preliminary reports from 88 Class I railroads, representing 82.1 per cent of total operating revenues, made public by the Association of American Railroads, show that those roads, in April, had estimated operating revenues amounting to $303,319,059 compared with $264,012,500 in the same month of 1940 and $371,112,920 in the same month of 1930. The April gross was 14.9 per cent above that for April, 1940, but 18.3 per cent below April, 1930.

Freight revenues of the 88 Class I roads in April, amounted to $247,607,752 compared with $216,862,947 in April, 1940, and $286,494,519 in April, 1930—14.2 per cent above the former, but 13.6 per cent below the same month in 1930. Passenger revenues totaled $30,942,472 compared with $24,761,399 in April, 1940, and $50,022,929 in April, 1930—25 per cent above the former, but 38.1 per cent below the same month in 1930.

## Alco Turns Out First Gun Carriage

The first 155-mm. gun carriage built thus far by private industry for the defense program was turned over to government officials by the American Locomotive Company on May 15, at its Dunkirk (N. Y.) plant. This was the first of a large number of gun carriages for which orders were placed on August 8, 1940. The gun carriage itself weighs approximately 20,000 lb., and an identical unit averaged 33 m.p.h. over a 1,000 mi. run with a top speed of 75 m.p.h. The carriage's construction required approximately 1,600 drawings.

For its experience in intricate fabrication work, the Dunkirk plant was chosen for the carriage job. A building formerly used to manufacture gray-iron castings was entirely reconditioned as to equipment, floor, lighting, etc. For storing parts obtained from other manufacturers, several smaller buildings were also cleared out and reconditioned.

Included in the special equipment which had to be provided for building gun carriages were a blast cleaning room for removing all scale from the parts; two paint booths where the individual parts and finally the completed carriages are painted; a large, car-type, gas-fired furnace for stress-relieving sub-assemblies after welding; electric welding equipment of various types for fastening the individual parts together to provide sub-assemblies; an X-ray equipment where flaws in the parent metal or welds are inspected internally and sent back for correction; and Magnaflux equipment, which is used to supplement the X-ray equipment on less important details.

Gun carriages are now in line-production at the plant.

## Western Railway Club Elects Officers

At the fifty-seventh annual dinner and meeting of the Western Railway Club, held Monday evening, May 19, at the Hotel Sherman, Chicago, the business session was presided over by Retiring President O. N. Harstad, general manager, Chicago, Milwaukee, St. Paul & Pacific. The following officers were elected for the ensuing year: President, W. W. Kelly, general purchasing agent, Atchison, Topeka & Santa Fe; first vice-president, C. M. House, superintendent motive power and equipment, Alton; second vice-president, W. L. Fox, general superintendent, Belt Railway Company of Chicago; treasurer, J. W. Fogg, vice-president and general manager, MacLean-Fogg Lock Nut Company; and executive secretary, E. E. Thulin, Earl Thulin Company. The newly elected officers will exercise their official duties beginning June 1.

Railroad members of the Board of Directors were elected as follows: H. P. Allstrand, assistant to ch. exec. officer, C. & N. W.; W. I. Cantley, mechanical engineer, A. A. R.; J. P. Morris, ch. mech. asst., A. T. & S. F.; L. Robinson, supt. of equipment, I. C.; Carl Gray, Jr., executive vice-president, C. St. P. M. & O.; F. G. Gurley, vice-president, A. T. & S. F.; O. N. Harstad, general manager, C. M. St. P. & P.; M. F. Stokes, president and general manager, Belt Ry. Co. of Chicago; L. J. Ahlering, purchasing agent, C. & E. I.; E. A. Clifford, general purchasing agent, C. & N. W.; L. L. King, purchasing agent, I. C.; R. D. Long, general purchasing agent, C. B. & Q. The following representatives of the railway equipment and supply industry were also elected to membership on the Board of Directors; John Baker, vice-president, Locomotive Firebox Company; O. H. Baker, manager sales, Carnegie-Illinois Steel Corporation; Muscoe Burnett, Jr., general sales manager, Oxweld Railroad Service Company; L. H. Gillick, general sales manager, Vapor Car Heating Company; A. A. Frank, president, Standard Railway Equipment Company; and S. C. Dinsmore, vice-president, railway sales, National Refining Company.

## "Fine-Spun Legal Reasoning" Fixes Motor Regulation Precedent

Because of "an apparent conflict of opinion" between its several divisions, the Interstate Commerce Commission has made No. MC-F-1139 a leading case in order to determine the applicability of the Interstate Commerce Act's consolidation and certificate provisions to a proposed merger into an interstate motor line of a carrier previously exempt from the certificate provisions because its physical operations were wholly intrastate and conducted pursuant to authority from a state regulatory body. The proceeding is an application of the Baggett Transportation Company of Birmingham, Ala., for authority under section 5 (the consolidation provisions) to purchase operating rights and property of Bishop Truck Lines on a 50-mile route between Birmingham, Ala., and Sylacauga.

Bishop was operating under the exemption proviso of the Motor Carrier Act's section 206(a) which stipulates in effect that a carrier situated as was Bishop would not have to obtain a federal certificate, but would be otherwise subject to the I. C. C. The conclusion of the commission majority is that when such a carrier becomes involved with another carrier operating physically interstate in an acquisition-of-control proposal under section 5, the commission is without authority to pass upon the propriety of the proposed transaction; and that "the surviving carrier must apply to us in a proper proceeding and obtain from us a certificate of public convenience and necessity covering the portion of the operation previously conducted by virtue of the exemption before he is authorized to engage in interstate or foreign commerce thereover."

In other words Baggett was found to be not properly before the commission with

**The American Locomotive Company Delivered the First 155 MM. Gun Carriage Produced by Private Industry to Government Officers at Its Dunkirk, N. Y., Plant on May 15**

*Continued on next left-hand page*

**WAUGH EQUIPMENT COMPANY**

NEW YORK CHICAGO ST. LOUIS

CANADIAN WAUGH EQUIPMENT COMPANY, LTD. MONTREAL

# FIREBARS

a section 5 application to acquire Bishop's rights; it should instead file an application for a certificate of convenience and necessity covering its proposed operation over the Bishop route where operations without a federal certificate were previously authorized under the exemption proviso. Dissenting expressions came from Chairman Eastman and Commissioner Lee, while Commissioners Porter and Mahaffie joined in the Eastman expression. Generally, the dissenters contended that the commission should pass upon transactions of the type involved under the consolidation provisions, letting certificates issue to cover operations resulting from transactions found justified under such provisions.

Chairman Eastman's dissent employed some sharp language to characterize the majority findings. "The conclusions which have been reached in this case," he said, "are the product of fine-spun legal reasoning and serve to make complex what should be simple, if considered from a practical point of view and with regard for the intent of Congress. The result of these conclusions will be to add unnecessarily to the troubles of all concerned." Later on the chairman spoke of the majority's "carrying subtleties of legal reasoning to the point where they trespass upon the clear intent of Congress." He cannot believe that the courts would deny the commission's right to do the "simple, practical, and consistent thing"; for the majority view "is certainly not good sense, and I do not believe it is good law."

## Train Help Want 30% Pay Boost

(*Continued from page 954*)

engulfed the nation in the early 30's and they feel they have a right now to share in the profits accruing to the railroads as a result of the general increase in the business of the country.

*Increase Would Eat Up Earnings*

It is estimated that a 30 per cent increase in the basic rates for the 350,000 transportation employees would increase their pay $202,452,000 based upon the $674,841,121 which the Class I and switching and terminal railroads paid their transportation employees in 1940. The net income of Class I railroads in 1940 was only $191,000,000 and for Class I and switching and terminal railroads only slightly more.

C. E. Johnston, chairman of the Western Association of Railway Executives in an informal statement on May 19, said,

"The indicated demand of railroad train and engine service employees for a 30 per cent increase in present wages is shocking to say the least. These men now enjoy the highest level of wages in American railroad history. The rail carriers are now straining every effort to co-operate in the National Defense Program, and are making vast capital expenditure to increase their rolling stock and plant facilities in order to handle, with dispatch, the sudden demands resulting from peak production.

"Almost one-third of the Nation's railroads are still in bankruptcy or reorganization. They are staggering under the burden of deficits accumulated throughout the depression period. The increased productivity of railroad labor, if indeed it has increased, is not due to an increased effort on behalf of the employees, but is directly due to improved mechanical efficiency of the railroad plant.

"The national administration is bending every effort to avoid unwarranted increases in prices to the consumer and such demands as appear in this contemplated proposal are the very things which should be avoided in order to prevent increased transportation costs and a resultant dislocation of price levels. There is nothing in the railroad picture in the name of National Defense to justify increases in wages to these classes of employees who are now preferential. A 30 per cent increase to these already favored classes would undoubtedly require a corresponding horizontal increase in the level of wages paid to all our employees. Last year the railway payroll was approximately $2,000,000,000. On this basis, the demand, if applied generally, would mean an increase of approximately $600,000,000. This is more than three times as much as the total net income for all railroads in 1940.

"It is generally recognized that the railroads have been fair with their employees. However, it is obvious that the stress of National Emergency does not justify profiteering either by labor or by capital."

*New Demand Only One of Many Pending*

The demand for a 30 per cent increase in pay is only one of several labor demands that are now pending and which will result in increased payrolls if granted. The demands of the 14 non-operating unions for vacations with pay, made on May 20, 1940, and which has been before the National Mediation Board in Washington since March 19, would increase the railroad payroll between $30,000,000 and $40,000,000. The demands of the Brotherhood of Locomotive Engineers made on March 18, 1939, and still pending, which calls for rates of pay based on horsepower of Diesels and for an assistant engineer in the engine rooms of certain types of Diesel locomotives, is another request that would boost the payroll of the railroads.

A more recent demand is that made by the Brotherhood of Locomotive Firemen and Enginemen on May 10, 1941, which seeks certain changes in the agreement covering the rates of pay, rules and working conditions of firemen, helpers, hostlers and hostler helpers. This request proposes that the rates of pay for firemen and helpers on steam and electric locomotives be based upon the total weight of the locomotive rather than upon the weight on drivers. The proposed scale includes 13 classifications of passenger, freight and yard locomotives, which start with less than 225,000 lb. and increase by 25,000 lb. In every instance the new rate is higher than the old. In the case of a passenger locomotive weighing 500,000 lb. on drivers, the present rate is $6.20. Under the proposed scale, a locomotive with a total weight of 500,000 lb. carries a rate of $6.90. The $7.11 rate of a line Mallet of less than 275,000 lb. becomes $8.12 and the $7.32 rate of a yard Mallet of less than 275,000 lb. becomes $8.32 under the proposed classification. In the case of locomotives with auxiliary power equipment, the difference between the present and the proposed rate is even more pronounced, because the present classification does not involve the weight of the auxiliary power equipment.

The demand also proposes that the rates of pay for firemen on Diesel-electric locomotives be based upon horsepower rather than upon weight on drivers. The proposed 15 classifications of passenger, freight and yard Diesel locomotives starts with less than 1,200 hp. and increases 900 hp. for the second group and 300 hp. for each group thereafter. Under the proposed classification the rates for firemen are $6.82 on a 5,400 hp. passenger Diesel and $7.92 on a 5,400 hp. freight locomotive as compared with a maximum rate of $6.29 on a passenger Diesel and a maximum rate of $7.11 on a freight Diesel under the present scale.

The demand also calls for a fireman or a helper on each unit of a Diesel. The request also specifies that if the power plants of rail motor cars in service on March 15, 1937, be increased in power so that they can haul more trailers, such rail motor cars be considered locomotives.

Questioned at his May 21 press conference Federal Loan Administrator Jesse Jones refused to comment on the wage increase demands beyond saying that 30 per cent is "a good deal of per cent."

## "Emergency" Board Named on A. B. & C.

President Roosevelt on May 15 issued a proclamation creating a three-man emergency board under the provisions of the Railway Labor Act to investigate a wage dispute which had brought about a threatened strike of some 375 employees of the Atlanta, Birmingham & Coast. The employees involved are members of the Brotherhood of Locomotive Firemen and Enginemen and the Brotherhood of Railroad Trainmen; and they are demanding "standard" basic wages and improved working conditions.

Members of the emergency board are Houston Thompson, Washington, D. C., attorney; Brigadier General Hamilton S. Hawkins, retired; and Dr. George W. Stocking of the University of Texas. None of the members has served previously on emergency boards. Under the terms of the Railway Labor Act an emergency board has 30 days in which to make its report; and the status quo is frozen during that period for another 30-day period after publication of the report.

The impasse which brought about the appointment of the emergency board came after attempts to mediate the dispute had failed, the employees having agreed to arbitrate and the carrier having refused.

President Roosevelt's action followed receipt of a telegram from President B. L. Bugg of the A. B. & C. stating that the strike—called for 6 a. m., May 17—"is an effort to enforce demands which are utterly impossible of compliance"; that "arbitration has been suggested but owing to the peculiar circumstances of our case it is not in our opinion the best procedure in this case." President Bugg had previously

*Continued on fourth left-hand page*

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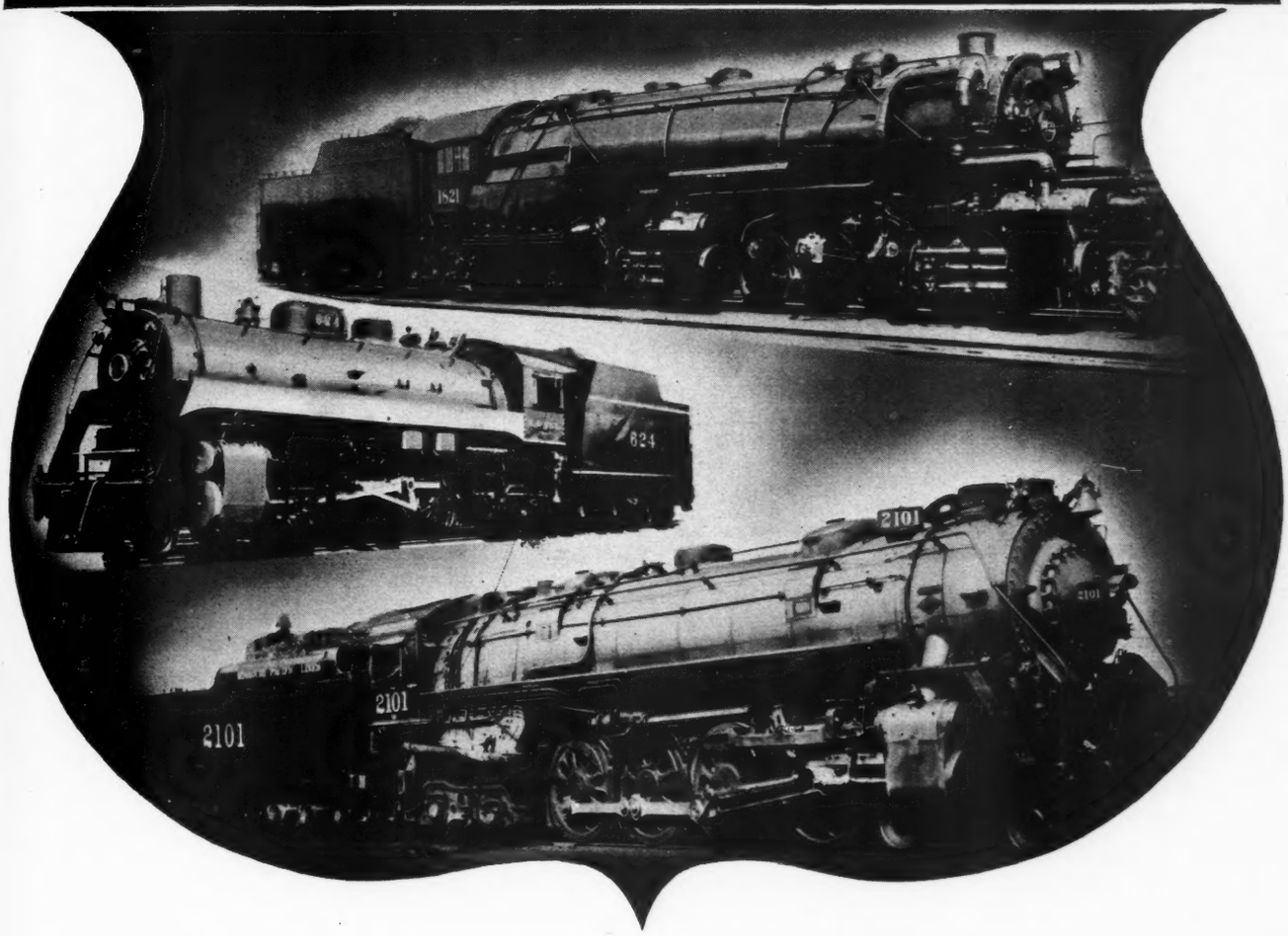


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Nicholson Thermic Syphons assure adequate boiler capacity and efficiency. Illustration shows a few of the many modernized locomotives—Syphon Equipped.

LOCOMOTIVE FIREBOX COMPANY

NEW YORK CHICAGO MONTREAL

sounded out the National Mediation Board on the prospect of getting presidential intervention; Secretary Robert F. Cole had replied that "the best procedure in your case would be that you agree to arbitrate the dispute if you earnestly desire to avoid a strike."

Last week the president of the road issued a circular letter to all its employees declaring that in certain informal talks at employees' meetings in July, 1937, he had told them "if at any time in the future you are so unfortunate as to put yourself in the position of being led up a blind alley and sacrificed, remember that on a hot July afternoon I told you plainly and frankly, and in the friendliest way, what might happen." The text of the letter continued in part: "Some employees, I am informed, are now being polled on a strike vote. A strike by these employees would jeopardize the job of every man and woman on the railroad. If we cannot operate train service, we cannot earn revenue, and any interruption to revenue will make it impossible to continue the employment even of those not involved in a strike.

"The position of the railroad is that the employees all along have and are now receiving in wages all the money produced in operation except a moderate provision for supplies and materials necessary in the operation of the railroad, like coal, crossties, lumber, etc., and taxes, which, while sometimes delayed in payment, are as certain as death. . . . It should be clear to any intelligent and unprejudiced person that the railroad, by an agreement to increase wages, under the existing conditions, would further increase its deficit, and thereby hasten the time when it could not continue in operation. We were asked to arbitrate, but where there is no money available to pay increased wages, there is nothing to arbitrate."

## Motive Power Symposium at A. S. M. E. Semi-Annual Meeting

Several papers on the design, operation, utilization, etc., of steam, Diesel-electric, and electric locomotives give promise of particularly interesting Railroad Division sessions to be held during the semi-annual meeting of the American Society of Mechanical Engineers to be held at the Hotel Muehlebach, Kansas City, Mo., Monday, June 16, to Thursday, June 19, inclusive. For these sessions on Tuesday, June 17, the following program has been arranged:

Comparison of Operation of Steam vs. Diesel-Electric Locomotives in Railroad Service, by E. E. Chapman, mechanical assistant, Atchison, Topeka & Santa Fe.

Modern Steam Passenger Locomotive—Research and Design, by P. W. Kiefer, chief engineer motive power and rolling stock, New York Central.

Utilization of Steam Passenger Locomotives, by A. A. Raymond, superintendent fuel and locomotive performance, New York Central.

The Modern Steam Locomotive in Freight Service, by C. E. Pond, assistant to superintendent motive power, Norfolk & Western

Electric Locomotive Operation, by H. C. Griffith, electrical engineer, Pennsylvania Railroad.

Advance in Locomotive Tender Design, by M. C. Haber, mechanical engineer, Research and Mechanical Standards Dept., Union Pacific.

Other divisions contributing to the technical program for the semi-annual meeting are Power, Process Industries, Materials Handling, Fuels, Hydraulic, Heat Transfer, and Management. The Engineers' Council for Professional Development is also sponsoring a series of sessions on topics of broad professional import.

## $400,000 Spent to Revamp C. & E. I.

Now that the Interstate Commerce Commission has finally fixed the maximum allowances for compensation for attorneys and reorganization managers in connection with the now fully-consummated reorganization of the Chicago & Eastern Illinois under section 77 of the Bankruptcy Act, it is possible for the first time to determine just how much it has cost to reorganize one of the smaller of the nation's Class I railroads. A complete examination of the docket in this case, which has been virtually closed insofar as the commission is concerned, reveals that the total bill for all legal fees, printing, and expenses of the reorganization managers amounts to some $389,168.

Although this figure of almost $400,000 may appear to some to be quite large for a road which had an original capitalization of $80,894,000 and a new capitalization after reorganization of $61,000,000, it should be pointed out that some $55,000 of this amount represents expenses of the reorganization managers in setting up the new corporate structure. Also, of this $55,000, more than $21,000 is represented by statutory fees assessed by the various states through which the road operates. These fees include costs of incorporation and the recording of mortgages, etc.

An examination of the commission's records shows that the largest recipient of money from the reorganized company for services in connection with the reorganization will be Ernest S. Ballard of Chicago, who acted throughout the entire proceeding as counsel for the debtor, the new company and the reorganization managers. Mr. Ballard submitted a total claim of $80,907, but Division 4 cut this amount to $50,907. This reduction of $30,000 appears to be typical of the way in which Division 4 has been paring down legal costs in this and in other reorganization cases in which it has set maximum limits for the court to follow. It should be pointed out that the court may further reduce this amount, but in most cases it has gone along with the commission's recommendations. The law provides that the court shall not allow more than the amount fixed by the commission.

Inquiry at the commission also reveals that much of the 7,500 hours of work claimed to have been performed by Mr. Ballard and his law firm, was due to the drafting of the new mortgages and the difficulty of including such new features in railroad mortgages as a capital fund, new theories of depreciation, and provisions for income bonds. These features are comparatively new to railroad lawyers and the drafting of the proper language which would prove acceptable to all parties concerned took a great deal of time. The size and amount of wordage in a Class I railroad mortgage can easily be imagined when one considers that the new mortgage for the Chicago Great Western, which is just now emerging from reorganization, covers some 186 printed pages in the court record. The large amount of time required by Mr. Ballard to draft the new mortgages is also reflected in the time schedules submitted by the other law firms which handled the case for various creditors and trustees for bond issues.

It is too early to predict what the legal expenses will be in some of the larger reorganization cases such as the Chicago, Rock Island & Pacific and the Chicago, Milwaukee, St. Paul & Pacific, but using the capitalization of the C. & E. I. as a basis of comparison, the figures would prove to be upwards of four or five million dollars. However, one cannot make such comparisons because some of the expenses on the larger reorganizations are not materially larger than those in the C. & E. I. case. It can be said, however, on the basis of those expenses already allowed in the other major cases, that the legal expenses will bulk very large, showing quite clearly that reorganization of a Class I railroad under the new procedure of section 77 of the Bankruptcy Act is still a costly process, not only to the stockholders who are generally wiped out, but also to the creditors who now take over the properties.

## President Urges Enactment of Pipe Line Bill

The full force of Administration pressure has been thrown behind a bill introduced in the House this week by Representative Cole, Democrat of Maryland, which would give broad powers both to government agencies and to private companies to condemn private land for the construction of oil and gasoline pipe lines. Coincident with the sending of a letter by the President to Speaker of the House Rayburn strongly endorsing the Cole bill, H. R. 4816, came the release by Mr. Cole of a report of his special petroleum subcommittee pointing out the need for additional pipe lines along the Atlantic Seaboard and in the southeastern part of the United States. The report of the subcommittee was the outgrowth of hearings held recently, details of which were given in the *Railway Age* of April 5, page 621.

Under the terms of the bill, immediate passage of which was advocated by the President and the Cole subcommittee, the Southeastern pipe line, which would run from Port St. Joe, Fla., to Chattanooga, Tenn., and part of which has been laid but not connected due to railroad and state opposition to granting rights of way, could be completed if the President certified that its completion was in the interest of national defense, since the bill gives private companies in such cases the power of eminent domain to condemn land.

It would also permit the construction

by the Plantation Pipe Line Company, a Standard of New Jersey subsidiary, of a proposed line from Baton Rouge, La., to Greensboro, N. C. Evidence at the recent hearing showed that construction on this line could not be started due to the fact that the railroads through whose rights of way it would pass had refused permission for its passage.

The measure provides that the President may provide for the construction, extension, or completion by any agency or department of the government of a pipe line if he finds that it will be in the interests of national defense. He may also make grants to private companies, and the government can sell its interests in any pipe line so constructed to private interests. The bill also gives the power of condemnation to private interests and to the governmental agencies. Instead of having to wait until condemnation proceedings are completed, it is provided that the land may be taken immediately upon the posting of a bond for the estimated worth of the property to be taken. The court would then determine the final value of the property at a later date, thus permitting immediate construction of a pipe line. These grants of power could not be exercised by the President, any agency of the government, or any private individual after June 30, 1943.

In his letter to Speaker Rayburn, President Roosevelt characterized the Cole bill as "concerned with one of the vital phases of our national defense program." "The vast concentration of industry, population, and military bases on the Atlantic coast," he wrote, "is now dependent for petroleum upon tankers plying between the Gulf coast and the middle Atlantic ports. Not only is this water route long and potentially perilous, but even present demands upon these transportation facilities make restriction of oil consumption to essential uses a distinct possibility within a few months. The immediate construction of pipe lines to augment the supply to the Atlantic coast is the one means available to relieve this situation.

"The bill which is proposed by Mr. Cole seems to me adequate to accomplish its objectives, and, in my opinion, it is a measure of first rank in importance. The situation which the bill is designed to correct must be remedied. I therefore take this means to call the measure directly to your attention and to urge that it be given early and earnest consideration by the Congress."

Earlier in the year the President had asked the Georgia legislature to pass a bill granting eminent domain power to the Southeastern Pipeline Company, but such a bill failed of enactment. In the subcommittee report it is pointed out that the subcommittee did not feel that the controversy between Georgia and the pipe line company was of sufficient importance to justify a special bill, but the report goes on to say that "the subcommittee will be very much surprised if it does not find wholehearted and enthusiastic support in the southeastern states, through their Representatives, to the program recommended at this time."

The subcommittee report may be summarized by saying that it points out in detail the alleged need for further transport facilities for oil in the southeastern part of the country and along the Atlantic seaboard and recommends that pipe lines be built in this area, which now has none. It also predicts that if nothing is done immediately, there will be a severe oil and gasoline shortage due to the lack of tankers to transport petroleum products. The subcommittee report is signed by Chairman Cole, Representatives Lea of California, and Kelly of Illinois, Democrats, and Wolverton of New Jersey and Holmes of Massachusetts, Republicans.

# Equipment and Supplies

## LOCOMOTIVES

### Denver & Rio Grande Western Completes Locomotive Program

The Denver & Rio Grande Western has completed the placing of orders for a total of 17 Diesel-electric locomotives of various types as follows:

| | | |
|---|---|---|
| 3 | 5,400 hp., | Electro-Motive Corporation |
| 4 | 1,000 hp., | American Locomotive Company |
| 9 | 600 hp., | Baldwin Locomotive Company |
| 1* | 380 hp., | General Electric Company |

* Previously reported by the *Railway Age*.

In addition to the above Diesel-electric units, the company ordered five 4-6-6-4 type locomotives from the Baldwin Locomotive Company in January, as reported in the *Railway Age* of January 25, making a total of 22 locomotives ordered so far this year.

THE UNITED STATES NAVY DEPARTMENT has ordered two 50-ton Diesel-electric switching locomotives at total cost of $50,118 from the H. K. Porter Company.

THE CANADIAN PACIFIC has ordered 20 4-6-2 type locomotives from the Montreal Locomotive Works. The inquiry for this equipment was reported in the *Railway Age* of February 22. The company is reported to be considering the purchase of an additional 15 locomotives of the same type.

## FREIGHT CARS

### B. & M. to Buy 1,600 Cars

The Boston & Maine is inquiring for a total of 1,600 freight cars for service on the Boston & Maine and Maine Central as follows:

600 40-ft. 6-in., 40-ton all steel box cars
500 50-ton, 8 door gondola cars
500 50-ton twin hopper cars

THE ERIE is inquiring for five 50-ft. 90-ton all-steel heavy duty flat cars with wood floors.

THE DELAWARE & HUDSON has ordered 550 freight cars from the American Car & Foundry Co., including 300 steel twin hopper cars of 50 tons' capacity, 200 42-ft. steel gondola cars with drop ends of 50 tons' capacity and 50 70-ton covered hopper cars for bulk cement. The contemplated purchase of these cars was first reported in the *Railway Age* of March 15.

THE UNION PACIFIC has placed an order with company shops for the construction of 2,000 50-ton box cars and 250 automobile cars in 1941.

THE ATCHISON, TOPEKA & SANTA FE is reported to be in the market for a total of 2,000 freight cars, which are in addition to the 1,700 cars ordered in April, as reported in the *Railway Age* of April 12.

THE BALTIMORE & OHIO has placed an order for 100 cabooses with the company's own shops. The inquiry on these cars was reported in the *Railway Age* of February 22.

THE DETROIT, TOLEDO & IRONTON is reported to have ordered 50 covered hopper cars from the Greenville Steel Car Company. The inquiry for this equipment was reported in the *Railway Age* of May 10.

THE DENVER & RIO GRANDE WESTERN has ordered 500 box cars of 40 tons' capacity from the Pressed Steel Car Company and three flat cars for auto-trailers from the company's own shops.

THE SOUTHERN PACIFIC is reported to be considering the purchase of an additional 2,500 box cars—by duplicating the orders for the 2,500 cars that were purchased in March—which later were reported in the *Railway Age* of March 22.

THE WESTERN MARYLAND has issued inquiries for a total of 1,225 freight cars as follows:

500 40-ft. 6 in. steel sheathed box cars.
300-500 31-ft. steel hopper cars.
200 52-ft. 6-in. steel drop-end gondola cars.
25 50-ft. welded steel flat cars with wood floors.

## PASSENGER CARS

THE DELAWARE, LACKAWANNA & WESTERN is reported to be considering the purchase of ten baggage-express cars.

THE DENVER & RIO GRANDE WESTERN has ordered four streamlined passenger-train cars with a power plant in each car from the Edward G. Budd Manufacturing Company. The cars will comprise two 2-car passenger trains.

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MORE THAN 1,300 ADULT MEMBERS of New York evening elementary schools traveled to Washington, D. C., during a recent week-end on two special trains of the Pennsylvania. The party constituted the largest college group ever to make a pilgrimage to the nation's capital, according to P. R. R. traffic officers. Most of the students were foreign born adults who have been taking courses in Americanization and the English language. The entire trip, including a sightseeing tour of the city, was priced at $7 per person.

*Continued on third left-hand page*

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BY virtue of its excellent Wear-Resisting qualities, HUNT-SPILLER *Air Furnace* GUN IRON has played a vital part in the progress of freight transportation on American railways.

Many, many years ago railroads discovered the fact that locomotives equipped with HSGI parts were more dependable, consumed less fuel and cost less to maintain.

Progress, with its increasing service requirements, has emphasized the advantages of HUNT-SPILLER *Air Furnace* GUN IRON and its contribution to the efficiency of all types of power.

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Cylinder Bushings
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Dunbar Sectional Type Packing
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for Cylinders and Valves
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for Diesel Service

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INVESTIGATION of modern power will show that most all of the outstanding revenue producers are equipped with wear-resisting parts made of HUNT-SPILLER *Air Furnace* GUN IRON.

The performance records of these locomotives show high efficiency, consistent high monthly mileage, low fuel consumption and economical maintenance.

The more you expect from your power in the nature of availability, efficiency and economy of operation, the more you need the service built into HUNT-SPILLER *Air Furnace* GUN IRON. The more completely equipped, the greater the earning from every locomotive.

**HUNT-SPILLER MFG. CORPORATION**

V.W. Ellet Pres. & Gen. Mgr. / \ E.J. Fuller Vice-President

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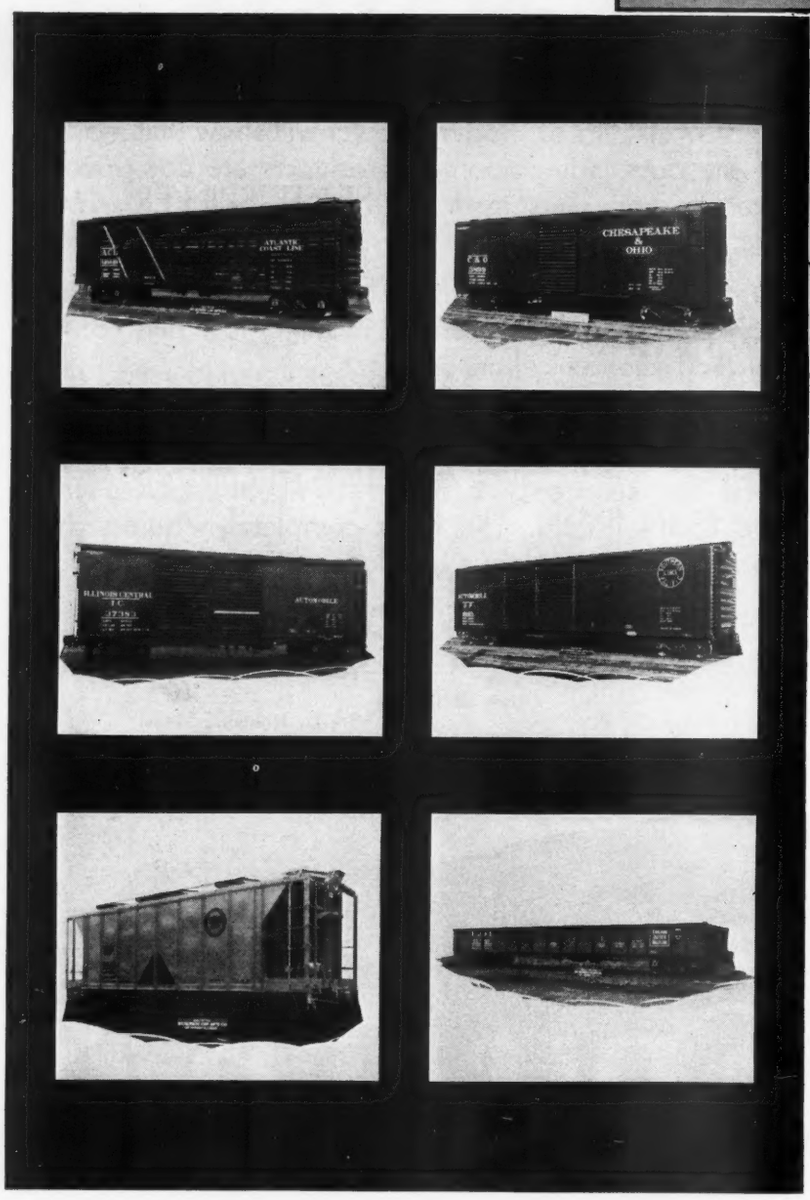
# HUNT-SPILLER
## *Air Furnace*
# GUN IRON

MT. VERNON ★ MT. VERNON ★ MT. VERNON ★ MT. VERNON

MT. VERNON ★ MT. VERNON ★ MT. VERNON ★ MT. VERNON ★ MT. VERNON

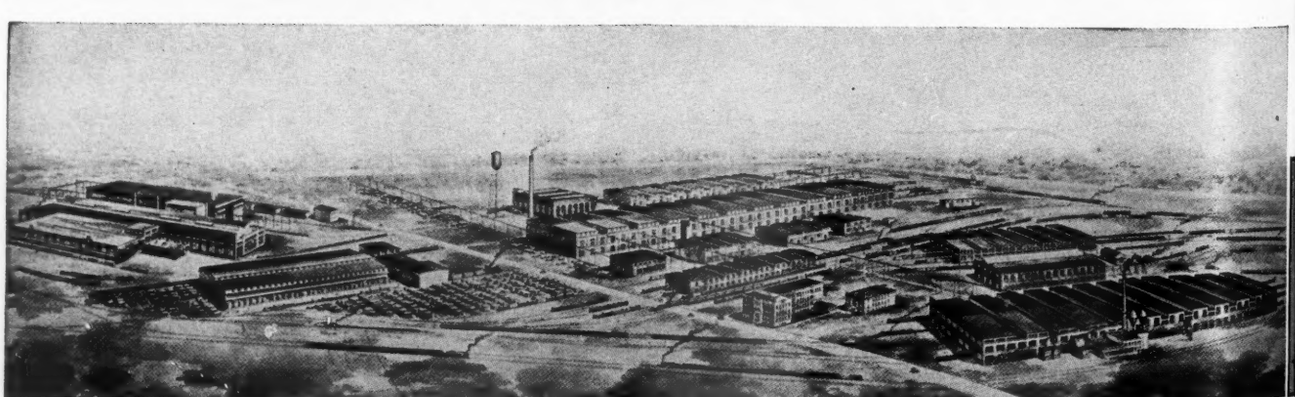
# PR
# GREATER




**We have been in partnership with Freight Car Progress for more than 50 Years.**

**We also supply Car Forgings, Car Parts and AAR Chilled Tread Wheels.**

**Below is shown our strictly Modern Plant. It is open for your inspection at all times.**



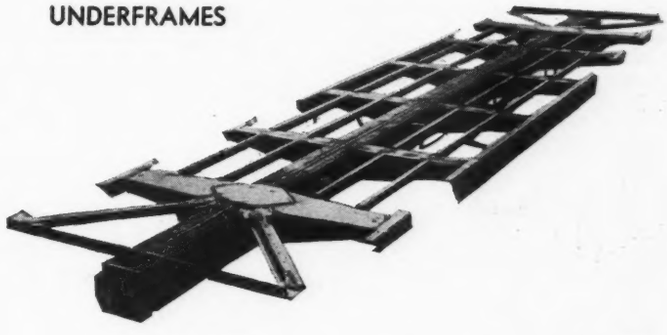
MT. VERNON ★ MT. VERNON ★ MT. VERNON ★ MT. VERNON

MT. VERNON ★ MT. VERNON ★ MT. VERNON ★ MT. VERNON

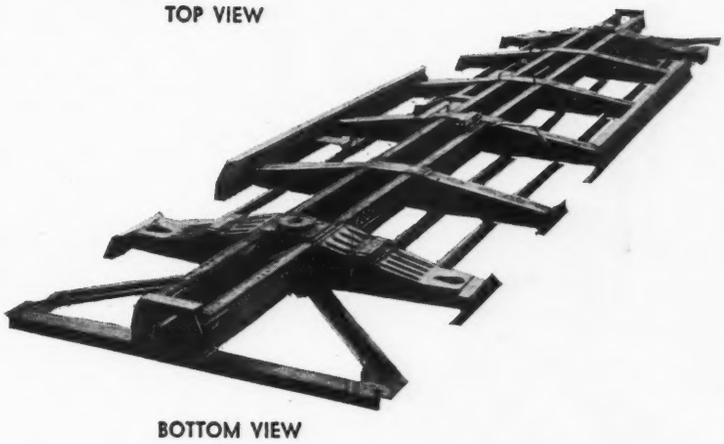
# EPARED for DEMANDS IN THE Car Building Field

For more than 50 years Mt. Vernon has been in the car building game and now has a plant fully manned in all of its departments with a car building minded personnel second to none in the country, ready as never before to keep pace with today's fast moving events among the great improvements that are taking place in freight car service. Better cars are a major factor and whatever your demands may be Mt. Vernon stands ready and able to meet them in every way and efficiently, for we pride ourselves on our ability to build any and all types of freight cars "JUST THE WAY YOU WANT THEM BUILT."

MT. VERNON BUILT "U. P." DESIGN
ALL WELDED
ALLOY STEEL
UNDERFRAMES



TOP VIEW



BOTTOM VIEW

MT. VERNON CAR MANUFACTURING CO.
MT. VERNON, ILLINOIS

MT. VERNON ★ MT. VERNON ★ MT. VERNON ★ MT. VERNON

MT. VERNON ★ MT. VERNON ★ MT. VERNON ★ MT. VERNON ★ MT. VERNON ★ MT. VERNON ★ MT. VERNON

# Supply Trade

**C. R. Cox** has been elected executive vice-president of the **National Tube Company,** a subsidiary of the United States Steel Corporation, succeeding **B. C. Moise,** who has retired after more than 50 years continuous service. **Elmer N. Sanders,** formerly assistant vice-president, operations, has been elected vice-president in charge of operations to succeed Mr. Cox.

**The George C. Lever Company** has been appointed Lo-Head Electric Hoist representative for the American Engineering Company in the Northern New Jersey, Greater New York and Long Island territory. George J. Sturmfelsz will represent the company in the State of Delaware; H. E. Mensch in the Detroit, Mich. territory and the American Steel Export Company of New York in certain foreign markets.

**Fowler McCormick,** second vice-president in charge of manufacturing of the **International Harvester Company,** Chicago, has been elected president to succeed **Sydney G. McAllister,** who has been elected chairman of the executive committee, a position that has been vacant since the death of Addis E. McKinstry. **K. O. Schreiber,** assistant to vice-president succeeds Mr. McCormick.

## OBITUARY

**Charles B. Jahnke,** president and general manager of The Cooper-Bessemer Corporation, died of a heart attack at Mercy Hospital in Mount Vernon, Ohio, May 6. He was 52 years old. Mr. Jahnke graduated from the University of Cincinnati and for twenty-one years thereafter was associated with Fairbanks, Morse & Company, in the positions of chief engineer, works manager, and finally director of engineering. He joined the International

**Charles B. Jahnke**

Harvester Company in 1931. Four years later he became affiliated with The Cooper-Bessemer Corporation as its chief engineer. In 1937, he became a vice-president and general manager of the corporation and, on December 27, 1940, was elected to the office of president and general manager. Mr. Jahnke was a member of the American Society of Mechanical Engineers and Society of Automotive Engineers.

# Financial

BALTIMORE & OHIO.—*Equipment Trust Certificates.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to assume liability for $5,880,000 of 1⅞ per cent equipment trust certificates, maturing in 10 equal annual installments of $588,000 on June 1 in each of the years from 1942 to 1951, inclusive. The issue has been sold at 100.2569 to Drexel & Co. and Harris, Hall & Co., Inc., making the average annual cost to the company approximately 1.83 per cent.

BEAVER VALLEY.—*Abandonment.*—Acting on this company's own request Division 4 of the Interstate Commerce Commission has dismissed its application in Finance Docket No. 13197 for authority to abandon a portion of its line in Beaver County, Pa.

CHICAGO & NORTH WESTERN.—*Equipment Trust Certificates.*—This company has asked the Interstate Commerce Commission for authority to assume liability for $2,325,000 of equipment trust certificates, maturing in annual installments beginning July 1, 1942 and ending July 1, 1951, inclusive. The proceeds will be used as part of the purchase price of new equipment costing $3,100,000 and consisting of 1,000 50-ton, 40 ft., 6 in., all-steel box cars.

CHICAGO & NORTH WESTERN.—*Reorganization.*—The district court at Chicago has fixed June 23 as the date on which it will hear any further objections to the reorganization program for the North Western. The court had been notified by the Interstate Commerce Commission that creditors had approved the plan, with the exception of the holders of $2,500,000 Milwaukee & State Line Railway Company first mortgage 3½ per cent bonds maturing January 1, 1941, who had rejected the plan. Attorneys for the railroad objected to setting a date for approval while an appeal from the plan remain pending in the Circuit Court of Appeals, but were overruled.

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC-PENNSYLVANIA.—*Joint Operation and Construction.*—The Chicago, Milwaukee, St. Paul & Pacific has been authorized by Division 4 of the Interstate Commerce Commission to operate, under trackage rights, over 11 miles of the Green County Coal Branch of the Pennsylvania and to construct a connecting track, and the Pennsylvania has been authorized to construct a connecting track with the Sponsler branch of the Milwaukee, all in Greene and Sullivan Counties, Ind. Division 4 dismissed the Pennsylvania's application for authority to operate, under trackage rights, over the Milwaukee's Sponsler branch, holding that it was a spur track and the commission did not have authority to pass upon such an application.

CHICAGO, ST. PAUL, MINNEAPOLIS & OMAHA.—*Equipment Trust Certificates.*—This road has applied to the Interstate Commerce Commission for approval of a sale to the Reconstruction Finance Corporation of $1,680,000 of 2½ per cent equipment trust certificates at par and accrued dividends. The certificates, dated July 1, 1941, would mature in 15 equal annual installments on July 1 of each year from 1942 to 1956. The application stated that the best bid received from private banking interests would have put the certificates on a 2⅞ per cent basis which the applicant regarded as unsatisfactory. The transaction would finance the acquisition from the American Car & Foundry Company of 700 all-steel box cars of 50 tons capacity.

COLORADO & SOUTHERN.—*Bonds of the Wichita Falls & Oklahoma.*—Division 4 of the Interstate Commerce Commission has authorized the Wichita Falls & Oklahoma to extend from July 1, 1936, to July 1, 1951, the maturity date of $326,000 of its first mortgage six per cent gold coupon bonds. All of the bonds are owned by the C. & S., which controls the Wichita Falls & Oklahoma through stock ownership, and are pledged under the former's refunding and extension mortgage and general mortgage.

COLORADO & SOUTHERN.—*Annual Report.*—The 1940 annual report of this company shows net deficit, after interest and other charges, of $1,246,168, an increase of $365,429 as compared with net deficit in 1939. Selected items from the consolidated income statement follow:

| | 1940 | Increase or Decrease Compared with 1939 |
|---|---|---|
| RAILWAY OPERATING REVENUES | $13,030,444 | −$18,917 |
| Maintenance of way | 1,835,577 | +474,770 |
| Maintenance of equipment | 2,265,910 | +40,907 |
| Transportation | 4,789,528 | −8,053 |
| TOTAL OPERATING EXPENSES | 10,012,588 | +514,081 |
| Operating ratio | 76.84 | +4.05 |
| NET REVENUE FROM OPERATIONS | 3,017,857 | −532,998 |
| Railway tax accruals | 1,257,266 | −186,073 |
| Railway operating income | 1,760,591 | −346,924 |
| Hire of equipment —Net Dr. | 408,658 | −551 |
| Joint facility rents —Net Dr. | 315,450 | −10,424 |
| NET RAILWAY OPERATING INCOME | 1,036,482 | −335,950 |
| Other income | 132,010 | −11,193 |
| TOTAL INCOME | 1,168,492 | −347,143 |
| Rent for leased roads and equipment | 4,690 | +623 |
| Interest on funded debt | 2,344,565 | +19,796 |
| TOTAL FIXED CHARGES | 2,400,737 | +17,565 |
| NET DEFICIT | $1,246,168 | +$365,429 |

DENVER & RIO GRANDE WESTERN.—*Control of the Denver & Salt Lake.*—The Interstate Commerce Commission has set June 16 as the date for a public hearing in the reopened Finance Docket No. 8070, the case in which this company was authorized to acquire control of the stock of the Denver & Salt Lake. The hearing will be before Bureau of Finance Director Sweet and Examiner Boles. A list of the subjects on which evidence will be developed at the hearing was published in the *Railway Age* of February 15, page 335.

DENVER & RIO GRANDE WESTERN.—*Abandonment.*—The Interstate Commerce

*Continued on fifth right-hand page*

Commission has further postponed for 20 days from May 22, the effective date of its order in Finance Docket No. 12829, in which Division 4 permitted this company to abandon its 125.3-mile narrow-gage branch extending from Antonito, Colo., to Santa Fe, N. Mex. The order has been postponed from time to time so that Senator Johnson, Democrat of Colorado, and his subcommittee could complete a report on the facts of the case. It is understood that the report of Senator Johnson's subcommittee will be forthcoming the latter part of this week.

DENVER & SALT LAKE.—*Annual Report.*—The 1940 annual report for this company shows net income of $9,304, after interest and other charges, compared with a net income of $1,820 in 1939. Selected items from the income statement follow:

| | 1940 | Increase or Decrease Compared with 1939 |
|---|---|---|
| RAILWAY OPERATING REVENUES | $2,363,251 | +$72,433 |
| Maintenance of way and structures | 381,808 | +32,203 |
| Maintenance of equipment | 531,289 | +42,099 |
| Transportation | 732,648 | +22,520 |
| TOTAL OPERATING EXPENSES | 1,782,129 | +91,148 |
| NET REVENUE FROM OPERATIONS | 581,122 | −18,715 |
| Railway tax accruals | 203,193 | −146,612 |
| Hire of equipment—Net Dr. | 21,084 | −29,146 |
| Joint facility rents—Net | 554,448 | −46,616 |
| TOTAL OPERATING AND OTHER INCOME | 919,368 | +110,691 |
| Rent from leased roads | 402,040 | −4,437 |
| Interest on funded debt | 500,000 | +110,000 |
| TOTAL DEDUCTIONS FROM GROSS INCOME | 910,064 | +103,207 |
| NET INCOME | $9,304 | +$7,484 |

EAST BROAD TOP RAILROAD & COAL.—*Revision of Interest Rates.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to revise the interest rates on its funded debt by increasing from four to six per cent the rates on $500,000 of first mortgage four per cent bonds due in 1958 and on $92,500 of first mortgage four per cent bonds due in 1958 of the Shade Gap, provided that the interest in excess of three per cent and not exceeding six per cent per year shall be payable and cumulative only to the extent earned in any calendar year. The company has also been authorized to increase from four to six per cent the interest rate on $464,400 of second mortgage four per cent income bonds due in 1958.

As pointed out in the application, the reason given for the increase in interest rates is that the company feels it will save money in state and federal taxes by paying out more money in interest. On the basis of 1940 federal and state taxes, the company estimates that it will save some $6,870.

ERIE.—*Abandonment.*—The Susquehanna Connecting has asked the Interstate Commerce Commission for authority to abandon its line extending from Hillside Junction, Pa., to Old Forge, 2.3 miles. At the same time the New York, Susquehanna & Western has asked authority to abandon its Jermyn No. 2 Breaker branch extending from a connection with the Susquehanna Connecting at Old Forge, 1.5 miles, and its Dolph branch, extending from a connection with the line of Moosic Mountain & Carbondale, 0.9 mile, near Old Forge, Pa. The Erie has asked authority to abandon operation of the abovementioned lines, a total of 4.7 miles.

LOUISVILLE & NASHVILLE.—*Equipment Trust Certificates.*—This road has asked for bids by May 27 on a $4,970,000 issue of equipment trust certificates maturing in ten equal installments July 15, 1942, to 1951, inclusive. The certificates are not to exceed 90 per cent of the cost of the equipment.

LOUISVILLE & NASHVILLE.—*Abandonment by the Louisville, Henderson & St. Louis.*—The Louisville, Henderson & St. Louis and the Louisville & Nashville, respectively, have been authorized by Division 4 of the Interstate Commerce Commission to abandon a line and the operation thereof, extending from Irvington, Ky., southwesterly to Fordsville, 37.7 miles, with branches extending from Junction, Ky., to Hardinsburg, 1.7 miles, and from Dempster, Ky., to Falls of Rough, 4.5 miles. At the same time the L. & N. has been authorized to abandon its so-called Hartford line extending from Ellmitch, Ky., southwesterly to Hartford, 19.2 miles.

LOUISVILLE & NASHVILLE.—*Equipment Trust Certificates.*—This company has asked the Interstate Commerce Commission for authority to assume liability for $4,970,000 of equipment trust certificates, maturing in 10 equal annual installments of $497,000 on June 15 in each of the years from 1942 to 1951, inclusive. The proceeds will be used as part of the purchase price of new equipment costing a total of $5,522,223 and consisting of 1,000 50-ton, all-steel hopper cars, 1,000 50-ton, steel-sheathed, wood-lined box cars, and 100 50-ton, all-steel, wood-lined, double-door box cars.

MISSOURI PACIFIC.—*Acquisition.*—This company has asked the Interstate Commerce Commission for authority to acquire certain terminal tracks of the Wichita Northwestern in Larned, Kans., some 14,942 ft.

MONTOUR.—*Equipment Trust Certificates.*—This company has asked the Interstate Commerce Commission for authority to assume liability for $500,000 of equipment trust certificates, bearing interest at not more than 2½ per cent and maturing in five equal annual installments on June 16 in each of the years from 1942 to 1946, inclusive. The proceeds will be used as a part of the purchase price of new equipment costing a total of $702,381 and consisting of 300 all-steel, 50-ton hopper cars.

NEW YORK, CHICAGO & ST. LOUIS.—*Lake Erie & Western Bonds.*—This company has asked the Interstate Commerce Commission for authority to (1) extend the date of maturity to July 1, 1951, of $3,625,000 of Lake Erie & Western second mortgage, five per cent bonds, due July 1, 1941, to (2) assume liability for the bonds as extended, and to (3) pledge and repledge all or any part of the bonds as collateral for short-term loans.

PENNSYLVANIA.—*Purchase of the Beaver Valley.*—Acting on the requests of the applicants, in Finance Docket No. 13210, Division 4 of the Interstate Commerce Commission has dismissed the application of this company and the Cleveland & Pittsburgh for authority to purchase a part of the line of the Beaver Valley in Beaver County, Pa.

RAY & GILA VALLEY.—*Deficit Status.*—Division 4 of the Interstate Commerce Commission has found that this company earned a net railway operating income in excess of 5¾ per cent per year on the value of its property and is not entitled to reimbursement under the provisions of section 204 of the Transportation Act of 1920, as amended January 7, 1941, for any losses suffered during the period of federal control. Division 4 found that the period of private operation under federal control was 20.2 months, which would entitle the company to earn income at the rate of 9.66 per cent for the period, whereas it earned at the rate of 39.7 per cent. An order was entered dismissing the carrier's claim.

SOUTHERN.—*Abandonment by the Wrightsville & Tennille.*—The Wrightsville & Tennille has been authorized by Division 4 of the Interstate Commerce Commission to abandon a line extending from Southwest Junction, Ga., to Hawkinsville, 35.9 miles, and to cease its arrangement with the Southern for the use of the latter's bridge and tracks across the Ocmulgee River at Hawkinsville.

SOUTHERN.—*R. F. C. Loans.*—President E. E. Norris of the Southern told stockholders at the annual meeting in Richmond, Va., on May 20 that the road has repaid in full its entire indebtedness of $31,405,000 to the Reconstruction Finance Corporation incurred between 1932 and 1938. The last $11,000,000 of such debt was repaid on May 15 by a treasury payment of $1,000,000 and a loan of $10,000,000 from six banks at an interest rate lower than the 4 per cent levied on R. F. C. loans. Mr. Norris said that the transference of indebtedness would save the company approximately $50,000 per year in interest over the life of the loan.

The bank loan is secured by part of the collateral which is pledged with the R. F. C. and in addition 3,240 shares of stock of Southwestern Construction Company. Interest rates on the notes given the banks vary from 2 per cent for earliest maturities to 3⅜ for the latest. The road has the right to anticipate payment of maturities.

## Dividends Declared

Illinois Central.—(Leased line) 4 per cent guaranteed, $2.00, semi-annually, payable July 1 to holders of record June 11.

North Pennsylvania.—$1.00 quarterly, payable May 26 to holders of record May 19.

Pittsburgh, Bessemer & Lake Erie.—Preferred, 3 per cent, semi-annually, payable June 2 to holders of record May 15.

Pittsburgh & Lake Erie.—Irregular, $2.50, payable June 16 to holders of record May 23.

Pittsburgh, Fort Wayne & Chicago.—$1.75

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HOLD
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STAYBOLTS
Keep 'Em Rolling for a Lower Cost
FLANNERY BOLT

LOW
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LTS
T COMPANY
BRIDGEVILLE,
PENNSYLVANIA

quarterly, payable July 1 to holders of record June 10; 7 per cent preferred, $1.75 quarterly, payable July 8 to holders of record June 10.

Pittsburgh, Youngstown & Ashtabula.—Preferred, $1.75, quarterly, payable June 2 to holders of record May 20.

Virginian.—62½¢ quarterly, payable June 25 to holders of record June 14.

### Average Prices of Stocks and Bonds

| | May 20 | Last week | Last year |
|---|---|---|---|
| Average price of 20 representative railway stocks.. | 28.72 | 29.16 | 23.78 |
| Average price of 20 representative railway bonds.. | 64.96 | 65.85 | 52.60 |

# Construction

THE ALASKA RAILROAD.—Construction will begin in June on a new freight house at Anchorage, Alaska, which will cost approximately $75,000. The building will be 51 ft. by 347 ft., with platforms, and will contain an ordinary storage room, an insulated warm storage room, and an office and heating plant. It will be of frame construction, supported on creosoted piling.

BALTIMORE & OHIO.—This company has awarded a contract to Merritt, Chapman & Scott of Cleveland, Ohio, for dredging the turning basin at Genesee dock, Rochester, N. Y., at an estimated cost of $55,000.

CHICAGO & NORTH WESTERN.—A contract has been awarded Henry Danischefsky, Milwaukee, Wis., on a force-account basis, for the modernization and redecoration work on its three-story brick passenger station at Milwaukee. Included in the work is the construction of a new entrance at the street level, with a marquis, and a stairway inside the station extending down to the track level. New lighting, decorative effects and interior rearrangement will feature the modernization work. The project will cost approximately $75,000.

GALESBURG & GREAT EASTERN.—This company has been denied authority by Division 4 of the Interstate Commerce Commission to construct an extension of its line from Victoria, Ill., northeasterly to a connection with a branch line of the Chicago, Rock Island & Pacific at Lafayette, 9.5 miles. Division 4 found that the construction of the line "would constitute an unnecessary duplication of railroad facilities."

ILLINOIS CENTRAL.—A contract has been awarded the Zitterell-Mills Company, Webster City, Ia., for enlarging and remodeling the frame passenger and freight station at Rantoul, Ill. The present station, 24 ft. by 85 ft., will be enlarged to 25 ft. by 204 ft., and will be rearranged and modernized. The new station will provide a waiting room, women's rest room, toilet rooms for men and women, a ticket office, a baggage and mail room, an l.c.l. freight room and an express office and wareroom. It will have a brick veneer, concrete foundation, concrete floors and trim, an asphalt tile roof, sanitary plumbing and a hot water heating system. The interior of the waiting room, women's rest room and ticket office will be finished with asbestos wallboard walls, gypsum board ceilings and birch trim and millwork; with plastered walls and ceiling in the toilet rooms and yellow pine trim and mill work in the wareroom.

MISSOURI PACIFIC.—A contract amounting to $2,198,389 has been awarded Brown & Root, Inc., Houston, Tex., for the construction 3.5 miles of reinforced concrete railway trestle for the high-level crossing of the New Orleans, Texas & Mexico (part of the Gulf Coast Lines) over the Morganza Floodway between Krotz Springs, La., and Lottie. The bridge will consist of 31-ft. 3-in. concrete T-beam spans on reinforced concrete bents, supported on timber foundation piles. It will provide for a single-track railway and will have a ballasted deck, with sidewalk and handrail on one side and motor car setoffs approximately every half mile. The bridge work will require the driving of 736,640 lin. ft. of timber foundation piling and 19,400 lin. ft. of Monotube foundation piles. The new bridge will also require 50,404 cu. yd. of concrete and 5,125 tons of reinforcing steel.

PENNSYLVANIA.—This company has asked the Interstate Commerce Commission for authority to extend its Plum Creek branch for some 500 ft. to a connection with a proposed extension of the Unity, in Allegheny County, Pa.

PENNSYLVANIA.—A contract amounting to $113,034 has been awarded the St. Clair Construction Company, Wheaton, Ill., by the State Highway Commission of Indiana for the construction of a highway grade separation bridge over the Pennsylvania tracks, U. S. Highway No. 31 and the Public Service Company of Indiana traction line north of Columbus, Ind., in Bartholomew County. The bridge will consist of six 41-ft. and two 47-ft. reinforced concrete girder spans on concrete bents.

PENNSYLVANIA.—This company plans to straighten the 1,400 foot curve in its four-track main line just east of Huntingdon, Pa., at a cost of approximately $250,000. The work will be carried out in conjunction with the Pennsylvania State Highway Department, which will simultaneously construct an overhead bridge to carry the new line of the William Penn highway across the tracks. The railroad will build a completely new standard roadbed to replace the present curve. The work will require the re-laying of considerably over a mile of trackage, involving more than 100,000 cubic yards of excavation, the installation of the necessary signal and interlocking apparatus, and revision of the telephone and telegraph lines.

TEXAS & PACIFIC.—This railroad has entered into a contract with the U. S. Government to construct a track approximately five miles in length from the main line, near Benbrook, Tex., to an aircraft assembly plant on the western outskirts of Ft. Worth, Tex.

UNITY.—This company has asked the Interstate Commerce Commission for authority to extend its lines to connect with the Plum Creek branch of the Pennsylvania, some 1.4 miles in Allegheny County, Pa.

# Railway Officers

## EXECUTIVE

**Lieutenant Colonel W. E. R. Covell,** manager, assistant secretary and assistant treasurer of the Ashley, Drew & Northern, with headquarters at Crossett, Ark., has been called to report for active duty in the office of the quartermaster general at Washington, D. C., on June 1.

**Herbert G. Feth,** whose promotion to assistant to the vice-president in charge of traffic of the Chicago & Eastern Illinois, with headquarters at Chicago, was announced in the *Railway Age* of May 17, was born at Cincinnati, Ohio, on August 31, 1895, and attended the University of Cincinnati. He entered railway service on August 1, 1916, as secretary to the general freight agent for the Southern at Cincinnati, and the following year he became assistant traffic manager of the Jos. Joseph & Brothers Co., Cincinnati. From 1918 to February 1, 1919, he served in the U. S. Army as a sergeant, and on the latter date returned to railroad service as secretary to the general freight agent for the Southern at Cincinnati. On March 1, 1920, Mr. Feth went with the Erie as secretary to the freight traffic manager at Chicago and six months later he was appointed solicitation clerk at Chicago. Mr. Feth was promoted to commercial agent at Milwaukee, Wis., on March 1, 1922, and on June 1, 1923, he was appointed chief clerk to the freight traffic manager at Chicago. On August 1, 1925, he went with the C. & E. I. as chief clerk to the vice-president, with headquarters at Chicago. On March 15, 1926, he was appointed assistant to the general freight agent, and on December 1, 1929, he was advanced to assistant general freight agent. On February 1, 1941, Mr. Feth was appointed industrial commissioner, which position he held until his recent appointment.

## TRAFFIC

**C. R. Seel,** traffic agent for the Chicago Great Western at Pittsburgh, Pa., has been promoted to general agent at that point.

**Frederick Webb,** district passenger agent for the Pennsylvania at Los Angeles, Cal., has been appointed special representative, with the same headquarters. **Joseph H. S. Winne,** district passenger agent at Minneapolis, Minn., has been transferred to Los Angeles, succeeding Mr. Webb, and **J. Ralph Brown,** who has been in charge of the Travel Shop at Chicago, has been promoted to district passenger agent at Minneapolis, relieving Mr. Winne.

**Samuel McClellan Adsit,** whose appointment as consulting traffic manager of the Virginian at Norfolk, Va., was reported in the *Railway Age* of May 3, was born at Springfield, N. Y. on May 1, 1863, and attended the public schools of St. Joseph, Mo. He entered railroad service in 1876 as clerk on the Hannibal & St. Joseph

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(now Chicago, Burlington & Quincy). Mr. Adsit then served as clerk on the St. Joseph & Western (later St. Joseph & Grand Island and now part of the Union Pacific), later becoming contracting agent for the St. Joseph & Grand Island, and still later general freight agent of the St. Joseph & Grand Island division of the Union Pacific. He then became general agent on the Union Pacific and from January, 1892, to May, 1907, served as general freight and passenger agent of the St. Joseph & Grand Island. On the latter date he went with the Virginian in a similar capacity, becoming traffic manager in March, 1920, the position he held until his recent appointment, at his own request, as consulting traffic manager.

**Hector C. Mitchell,** whose appointment as traffic manager of the Virginian at Norfolk, Va., was reported in the *Railway Age* of May 3, was born in Bristol, England on November 7, 1879. Mr. Mitchell entered railroad service in September, 1893, as office boy in the car accountant's office of the Chicago, Milwaukee & St. Paul (now Chicago, Milwaukee, St. Paul & Pacific) at Chicago and served successively until 1907 as car record clerk, assistant chief clerk, car distributor and freight solicitor. In 1907 he went with the St. Joseph & Grand Island (now part of Union Pacific) serving successively as traveling freight agent at Chicago and general agent at Pittsburgh, Pa. During the war period he engaged in government construction work directly under the Rust Engineering Company, Pittsburgh, as purchasing agent and traffic manager. In 1920 Mr. Mitchell went with the Virginian as

Aufenger

**Hector C. Mitchell**

general agent at Pittsburgh, serving from 1922 to 1936 as assistant general freight agent and general freight agent in charge of solicitation at Norfolk. In 1936 he became assistant traffic manager of that road, the position he held until his recent appointment as traffic manager.

**A. H. Shaw,** general passenger agent of the Pennsylvania, with headquarters at New York, has been appointed assistant to passenger traffic manager, with the same headquarters. **Earle Robert Comer,** assistant general passenger agent at New York, has been promoted to general passenger agent at Washington, D. C., succeeding **C. G. Pennington,** who has been transferred to New York, to succeed Mr. Shaw. **H. A. Weiss,** division passenger agent at Pittsburgh, Pa., has been promoted to assistant general passenger agent

**Earle Robert Comer**

of the Long Island at New York, to succeed **J. V. Sowers,** who has been transferred to St. Louis, Mo. Mr. Sowers succeeds **Frank M. Ware,** who has been transferred to Philadelphia, Pa., to succeed **Homes Bannard,** transferred to New York. **L. F. Entrikin,** assistant general passenger agent at New York, has been transferred to Pittsburgh. **J. B. Dorrance, Jr.,** division passenger agent at Cleveland, Ohio, has been transferred to Baltimore, Md., to succeed **I. B. Yeakle,** who has been granted a leave of absence. **F. J. Roth,** district passenger agent at Jacksonville, Fla., has been appointed division passenger agent at Cleveland, to succeed Mr. Dorrance.

Mr. Comer was born in Newfield, N. J., on September 2, 1902, and entered railroad service on June 19, 1920, as tower leverman in the telegraph department, West Jersey & Seashore (Pennsylvania) at Atlantic City, N. J. He then served successively as block operator, ticket clerk and freight clerk. On July 9, 1923, Mr. Comer became stenographer in the passenger traffic department of the Pennsylvania at Atlantic City and on June 1, 1927, became passenger representative at Miami, Fla., being transferred to New York on May 1, 1929. On July 1, 1929, he was appointed district passenger agent at Boston, Mass., and on July 1, 1933, became New England passenger agent at Boston. He was appointed division passenger agent at Indianapolis, Ind., on May 1, 1936, and on April 16, 1937, became division passenger agent at New York. He was appointed assistant general passenger agent of the Long Island on September 16, 1938, and on June 16, 1939, was appointed to a similar position on the Pennsylvania at Philadelphia, Pa. Mr. Comer was transferred to New York in May, 1940, where he remained until his recent appointment.

## OPERATING

**F. E. Gorby,** superintendent of the Union railroad, with headquarters at East Pittsburgh, Pa., has retired from active service after 50 years of railroad service.

**D. B. Shirey** has been appointed superintendent of operations; **O. G. Jenkner,** trainmaster; **B. A. Wood,** general yardmaster; **W. C. Bradley,** assistant to general manager and **J. R. Rankin,** engineer accountant. **F. R. Smith,** engineer of bridges, has been appointed engineer of bridges and buildings.

**Christian S. Collier,** supervisor of trains and track on the Illinois Central at Princeton, Ky., has been promoted to trainmaster at Princeton, a newly created position.

**J. S. Gray,** assistant general foreman coal piers of the Chesakeape & Ohio, has been appointed trainmaster of the Newport News-Norfolk terminal sub-division, with headquarters at Newport News, Va., succeeding **E. A. Cooke,** who will retire on June 1.

**F. Lynwood Steinbright,** traffic engineer of the Lake division of the Western Union Telegraph Company, with headquarters at Chicago, has been appointed superintendent of telegraph of the Northern Pacific, with headquarters at Minneapolis, Minn., succeeding **Edward H. Friberg,** who retired because of ill health on May 16.

Mr. Steinbright was born at Norristown, Pa., on August 24, 1904, and graduated in electrical engineering from the University of Pennsylvania in 1925. On July 6, 1925, he entered the service of the Western Union Telegraph Company at Philadelphia, Pa. On January 14, 1927, he was appointed engineering assistant in the New York general traffic office, and on November 1, 1935, he was promoted to general in-

**F. Lynwood Steinbright**

spector. Mr. Steinbright was advanced to division traffic inspector on the Lake division, with headquarters at Chicago, on September 3, 1936, and on May 15, 1939, he was advanced to traffic engineer of that division, the position he held until his recent appointment.

Mr. Friberg was born at Clear Lake, Wis., on August 29, 1882, and entered railway service on June 1, 1900, as an operator on the Chicago, St. Paul, Minneapolis & Omaha. He severed his connection with this company on March 20, 1901, entering the service of the Northern Pacific on July 10 of the same year as a telegraph operator on its Seattle division. Four years later

*Continued on second left-hand page*

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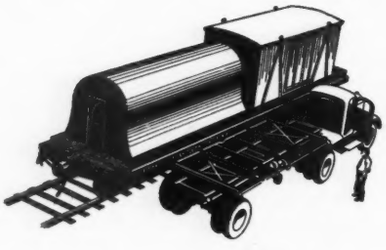

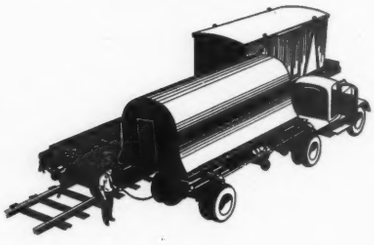

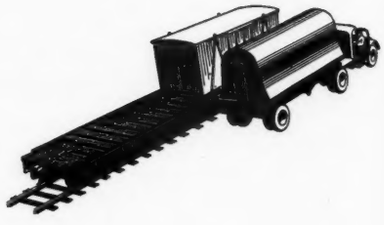

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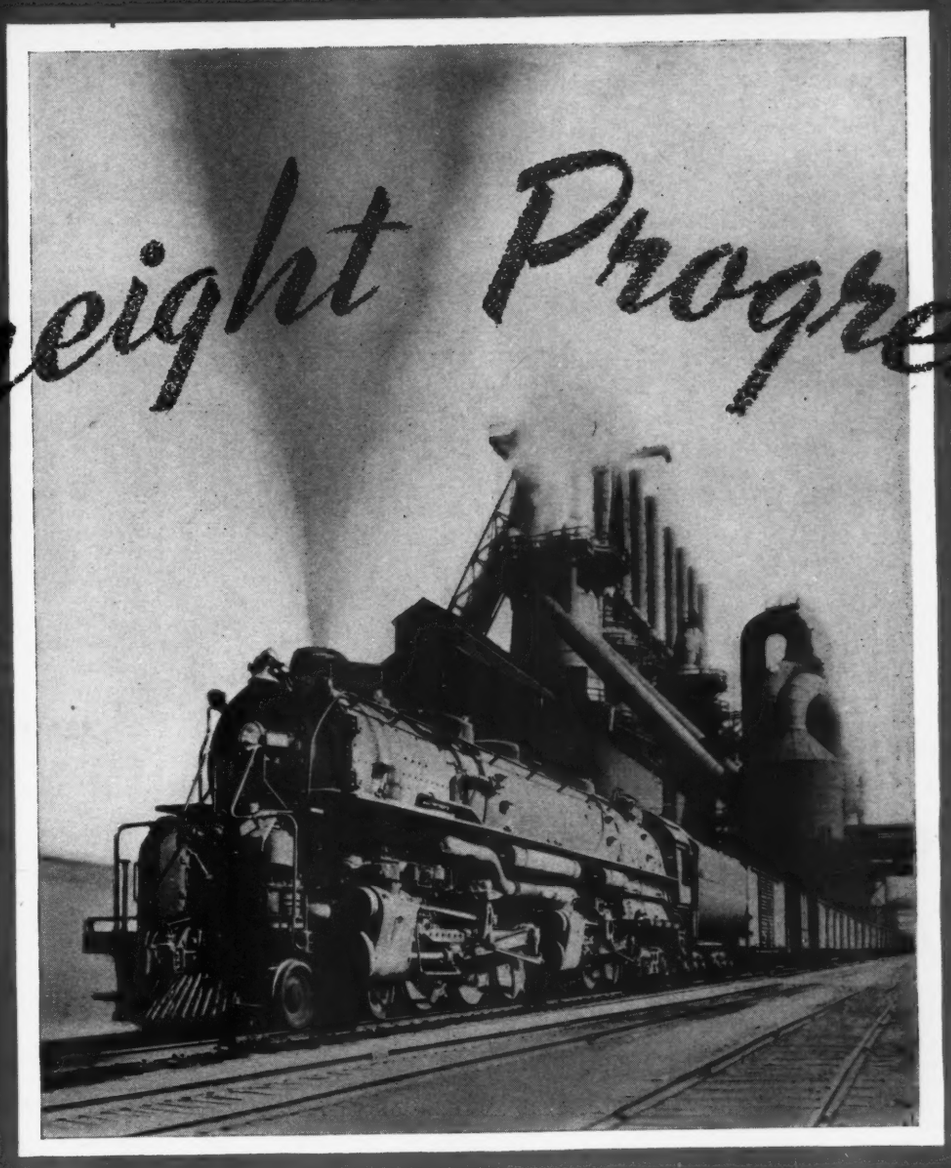


# MARCHES ON

**This Freight Progress Number comprehensively reports the forward march of railway freight transportation . . . and the outstanding advances that the railroads are making in expanding and improving their service to shippers.**

**In the pages that immediately follow, the leading railroads of the United States and Canada present their individual messages of progress . . . impressive evidence of the faster schedules, the improved equipment and facilities, and the care, safety and year-around reliability that make the railroad service on the North American continent the finest mass transportation in the world.**

**The railroads' messages, together with the advertisements of railway equipment and supply manufacturers, and the comprehensive editorial section, present outstanding evidence of the continuous progress and planning that now enable the railroads to meet every traffic demand with adequate and constantly improving service.**

he was promoted to train dispatcher, and in 1914 he was further advanced to night chief dispatcher. On August 6, 1916, Mr. Friberg was promoted to chief dispatcher, and on March 1, 1925, he was made trainmaster of the Pasco division (now the Idaho division), with headquarters at Yakima, Wash. On April 1, 1929, he was further elevated to the position of assistant to the general superintendent, being appointed assistant division superintendent of the Tacoma division, with headquarters at Tacoma, Wash., on July 1, 1930. On June 1, 1937, he was appointed superintendent of telegraph, with headquarters at St. Paul, which position he held until his retirement May 16.

## ENGINEERING AND SIGNALING

**A. L. Assman,** assistant to the signal engineer of the Chicago, Burlington & Quincy, has been promoted to principal assistant signal engineer, with headquarters as before at Chicago, and the position of assistant to the signal engineer has been abolished. **L. Stueber,** signal inspector at Chicago, has been promoted to assistant signal engineer, with headquarters at Lincoln, Neb., succeeding **W. F. Giles, Jr.,** who has been transferred to the operating department.

**William Shea,** whose retirement on May 1 as superintendent of track maintenance of the Chicago, Milwaukee, St. Paul & Pacific, with headquarters at Chicago, was announced in the *Railway Age* of May 17, was born at Eddyville, Iowa, on August 31, 1867, and entered railway service in 1881 as a water boy on the construction of the Humeston & Shenandoah (now part of the Chicago, Burlington & Quincy) in southwestern Iowa. He later served as foreman of a construction gang for the Milwaukee on the construction of the line between Cedar Rapids, Iowa and Ottumwa. On November 1, 1884, he was appointed

**William Shea**

section foreman on the same line at North English, Iowa, and in August, 1887, he was promoted to extra gang foreman on the Kansas City division. Mr. Shea was advanced to roadmaster on the Chicago & Council Bluffs division in 1890, and on January 1, 1891, he was appointed roadmaster on the Middle district of the Kansas City division, with headquarters at Blakesburg, Iowa. In July, 1918, he was further advanced to general roadmaster of the Milwaukee system, with headquarters at Chicago. In January, 1930, Mr. Shea was appointed assistant engineer of maintenance of way, and on May 1, 1935, his title was changed to superintendent of track maintenance, the position he held until his retirement.

## MECHANICAL

**W. M. Martin,** engineer, steam locomotive design on the Union Pacific at Omaha, Neb., has been appointed assistant master mechanic at Council Bluffs, Iowa.

**G. R. Steeves,** locomotive foreman on the Canadian National at Jasper, Alta., has been promoted to master mechanic at Prince George, B. C. **J. W. McAuley,** assistant superintendent and master mechanic at Prince George, has resigned.

**H. M. Sherrard,** division master mechanic on the Baltimore & Ohio at Grafton, W. Va., has been appointed superintendent of shops at Glenwood, Pa., succeeding **W. B. Porterfield,** who died on January 16.

**G. S. Webb,** general electrician for the Eastern region of the Pennsylvania, has been appointed assistant master mechanic at Columbus, Ohio, succeeding **G. B. Gibson,** who has been promoted to general foreman of the Altoona car shop, Altoona, **Pa.**

**A. J. Scherl,** chief clerk to superintendent of shops of the Norfolk & Western, with headquarters at Roanoke, Va., has been appointed chief motive power clerk and **S. A. Bland,** secretary to general superintendent of motive power, has been appointed assistant chief motive power clerk, effective May 16. They will assume the duties of the late **R. K. Carr,** assistant to the superintendent of motive power, which position has been discontinued.

## PURCHASES AND STORES

**George F. Jung,** chief clerk to the general storekeeper of the Chicago, Rock Island & Pacific at Silvis, Ill., has been promoted to division storekeeper at Chicago, succeeding **David C. Parks,** whose death on April 1 was reported in the *Railway Age* of April 5.

**Orley A. Schultz,** whose promotion to assistant purchasing agent for the Chicago, Burlington & Quincy, with headquarters at Seattle, Wash., was announced in the *Railway Age* of May 10, was born in Schuyler County, Ill., and attended Brown Business College at Galesburg, Ill. He entered railway service in 1906 as an apprentice in the planing mill of the Burlington shops at Galesburg. A short time after he finished his apprenticeship, he was transferred to the stores department and was later promoted to general lumber yard foreman at Galesburg. In 1917 Mr. Schultz was advanced to general foreman of the main store at Aurora, Ill., and a few years later he was appointed traveling storekeeper for the Lines West of the Missouri river. He was then appointed temporary storekeeper at Hannibal, Mo., and in 1922, he was appointed chief lumber inspector of the Burlington Lines, with headquarters at Chicago. Mr. Schultz was advanced to inspector of stores in 1927, and three years later he was appointed storekeeper at Galesburg. In 1934 he was transferred to the purchasing department as chief lumber and tie inspector and on March 1, 1937, he was appointed Pacific Coast lumber agent, with headquarters at Seattle, the position he held until his recent promotion, effective May 1.

## SPECIAL

**L. P. Green,** advertising agent of the Minneapolis, St. Paul & Sault Ste. Marie, with headquarters at Minneapolis, Minn., retired on May 1.

**Harry H. Walker,** editor of the Green Light, employees' newspaper of the Denver & Rio Grande Western, has been appointed also assistant director of public relations, with headquarters as before at Denver, Colo.

## OBITUARY

**R. K. Carr,** assistant to superintendent motive power of the Norfolk & Western, with headquarters at Roanoke, Va., died on May 4 at the age of 56.

**Press Bancroft,** general agent, freight department, for the Southern Pacific at Chicago, died suddenly in that city on May 13.

**Douglas Call,** treasurer and paymaster of the Richmond, Fredericksburg & Potomac, with headquarters at Richmond, Va., died on May 1, at his home in that city, at the age of 57. Mr. Call was born on October 29, 1883, at Richmond and entered railroad service on November 13, 1901, with the Richmond, Fredericksburg & Potomac. On January 1, 1913, he was appointed paymaster and in 1920 became assistant treasurer and paymaster. Mr. Call had been treasurer and paymaster since November 19, 1936.

**William Henry Burns,** vice-president and general auditor of the Chicago, Rock Island & Pacific, with headquarters at Chicago, died on May 20 in the Roseland Community hospital in that city after a brief illness. Mr. Burns was born in Chicago on April 23, 1865. He entered railway service in 1880 as a clerk to the storekeeper on the Rock Island, leaving a short time later to attend business college. In 1882, he returned to the Rock Island as a roadmaster's clerk and was transferred the following year to the office of the freight auditor at Chicago. In June, 1898, he was advanced to freight auditor, and on July 1, 1902, he was appointed auditor of freight traffic. On October 1, 1905, Mr. Burns was promoted to assistant general auditor, and four years later he was advanced to general auditor. In May, 1922, he was elected vice-president and general auditor.